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J. RIDDLE GOFFE, PH.B., M.D.

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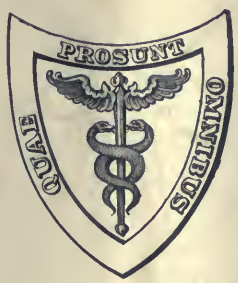

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ORIGINAL ARTICLES.

THE TREATMENT OF ACUTE LOBAR PNEUMONIA.[1]

BY MORRIS MANGES, M.D.,
OF NEW YORK;
VISITING PHYSICIAN TO THE MOUNT SINAI HOSPITAL.

IN opening the discussion of this topic this evening I would say by word of preface that I will restrict myself to the disease as it occurs in adults, and will confine myself to presenting some of the more important indications rather than a complete survey of the whole field.

We are indebted to Townsend and Coolidge[2] for bringing home a very valuable lesson in the treatment of acute lobar pneumonia. The records of 1000 patients who were consecutively treated for this disease at the Massachusetts General Hospital from 1822 to 1889 were carefully studied; they eliminated all cases which were doubtful, *i. e.*, "where death could be reasonably accounted for, that is to say, all who died who were over fifty years of age, were intemperate, delicate, or had complications." The mortality of the cases remaining after this exclusion was reckoned according to decades and presented in a graphic curve (Chart X., *loc. cit.*, p. 40). The result was almost a straight line, the rate varying between nine and fourteen per cent., showing that in spite of all the changes in treatment ranging from the bleeding, purging, salivation, and blistering of 1822 to the symptomatic treatment of our own time, the death-rate at this hospital was practically unchanged.[3] Surely these statistics ranging over a period of more than sixty years, in which the elements of season, sex, epidemics, etc., have been eliminated, must teach a lesson to the physicians who claim such wonderful results from the treatment of pneumonia on any fixed plan. Let them also consider the results obtained about 1850 by Skoda and Diettl with practically no treatment. There is no escape from the conclusion that at present we are utterly powerless to *directly* influence the course of this disease. Our only hope lies in the development of the antitoxin treatment to give us some specific means of combatting the pneumococcus toxemia, for our present knowledge of the life history of the pneumococcus shows that no drug or method of treatment thus far known can in any way surely influence its action.

Although we are justified in expecting the production of a curative pneumococcus antitoxin, the results thus far obtained by Klemperer, Lara, Bozzolo, De Renzi, Pane,[1] and Washburne, while encouraging, are by no means conclusive. The problem is a very difficult one, for all the experimenters have been very much hampered by the great variability in the virulence of the Fraenkl micrococcus, and the corresponding difference in the virulence of the antitoxins produced in animals. The obstacles which must be surmounted are very similar to those encountered in the manufacture of streptococcus antitoxin. It must also be borne in mind that all pneumonias are not caused by the pneumococcus, but that several other micro-organisms also not infrequently produce it; nor must we forget the important relations of the influenza bacillus in the disease as we now encounter it. An excellent résumé of what has already been accomplished with pneumonia antitoxin and serum has recently been published by A. H. Smith.[2]

In the meantime, how shall we treat our patients with pneumonia? Let it be premised that not every case demands treatment; patients presenting the normal picture of the disease, with a not too severe infection and a proper reaction by the system to the infection require nothing more than observation and proper nursing. When treatment is instituted, let it be remembered that we are not treating the pneumonia, but a patient with pneumonia. Also, that some will die in spite of all treatment, and that not a few perish as the result of it. The difference between the cases seen in the hospital-ward and in private practice is most striking. It would aid many a general practitioner to see patient after patient, some with large areas of consolidation, progress nicely on very simple treatment in the wards. To many the diagnosis, pneumonia, *eo ipso*, seems to demand the immediate exhibition of heroic remedies. Meddlesome relations of the patient are bad; meddlesome

[1] Read before Metropolitan Medical Society, October 24, 1898.

[2] *Trans. Amer. Climatological Association*, p. 22, 1889.

[3] The average mortality-rate of pneumonia from all causes and of all ages is much higher, as is best shown by the death-rate of 233,730 cases collected by Wells, of Chicago, *i. e.*, 18.1 per cent. (*Journal American Med. Assn.*, 1892, quoted by Osler, *Amer. Jour. Med. Sciences*, January, 1897).

[1] At the last Italian Congress of Internal Medicine, October, 1898, there was an extended discussion on Pane's antipneumococcus serum. The results of the experiments of Massalongo and Franchini seem to warrant the conclusion that Pane's serum "appeared to have a direct action on the evolution of the pneumococcus process, hindering its diffusion and aiding the process of resolution" (*Philadelphia Med. Journal*, p. 833, October 29, 1898).

[2] *Amer. Jour. of the Med. Sciences*, p. 377, October, 1898.

nurses are worse; but in pneumonia the worst feature of all is the meddlesome doctor.

When treatment is required it must be directed against the toxemia. Its object is fivefold: (1) To maintain life; (2) to support the heart; (3) to control undue fever; (4) to relieve suffering; (5) to control complications.

I. *To Maintain Life.*—This includes the nursing and diet, which are too familiar to require any details. I wish, however, to emphasize the importance of watching the stomach, for not enough attention is paid to ascertain whether it be unduly distended with gas or improperly digested food; even liquids may be improperly disposed of by the stomach. Routine percussion of the stomach is far more important than routine examination of the lungs. The heart must be spared in every way; let its burdens not be unnecessarily increased by upward displacement from the unduly distended stomach and intestines. All articles of diet which may produce flatulence must be rigidly excluded, and the milk must be adapted to the patient both in quantity and in preparation. Do not overfeed these patients; the disease is a very short one, and the patient's surplus fat and tissues will supply any deficit in the diet. Spare the stomach from undue medication as much as possible, and use the hypodermatic method in preference. Give water freely, either cold, hot, or carbonated (unless the patient is cyanotic), for it allays the thirst, reduces the fever and increases the elimination of toxins by promoting free diuresis. For the latter purpose the combination of a light Moselle wine with an alkaline mineral water is exceedingly useful.

II. *To Support the Heart.*—As well described by Douglas Powell[1] the dangers are three in number: (*a*) Impaired nerve power on the part of the pneumogastric branches of the cardiac plexus; (*b*) impaired nutrition of the hard-working heart-muscle from insufficient or badly aerated blood-supply; (*c*) mechanical tendency to overdistention of the right cavities and to depletion of the left cavities of blood.

The drugs which best meet these indications are strychnin, caffein, and nitroglycerin. Strychnin and nitroglycerin are best given in reliable tablets, the caffein in solutions of the benzoate or salicylate. If the results are not promptly obtained the drugs should all be administered hypodermatically. Nor should we hesitate to use them freely, for the action of each is clean cut, and any overdosage can be recognized very readily. My own experience has convinced me of the value of large doses of strychnin, to which Roosevelt called attention, in tiding a heart through the crisis. For the same purpose we may also resort to the hypodermatic injection of camphor in sweet almond oil. Osler also reports good results from hypodermoclysis. A struggling heart is often aided by an ice-bag over the precordium.

Van Santvoord has very recently published an interesting paper[1] which throws an entirely different light on the subject of heart failure in pneumonia. His views are based upon the important experiments of Romberg, which proved that the cardiac weakness in pneumococcus toxemia is due mainly to a vasomotor paralysis, it being clearly demonstrated that arterial pressure is low as the result of relaxation of the peripheral blood-vessels. This is entirely opposed to the prevailing view that the characteristic pulse in pneumonia is one of high tension. If subsequent observations prove the correctness of these views we should be cautious in the use of nitroglycerin for obvious reasons and should restrict its use to the temporary relief of embarrassment of the right heart.

These experiments may also clear up the question of the use of digitalis in pneumonia, about which so much bitter discussion has been waged. The extreme views of Petresco have not found favor. In answer to the low mortality of 2.06 per cent. reported by him and his school in 825 cases (I believe most of these cases were in soldiers, his statistics being those of the military hospital at Bucharest[2]) I may cite the extremely low mortality of 3.6 per cent. in 40,000 German soldiers. Petresco has certainly demonstrated that the danger from these colossal doses of digitalis (12 grams or 180 grains daily) is small, but according to Reiner[3] they must not be continued more than two days at the utmost. Another explanation of the tolerance for these large doses may be found in the experiments of Brunton and Cash,[4] which clearly show that the action of digitalis is lessened in febrile conditions. A safe guide for the use of this drug is that given by Von Juergensen[5]: "Digitalis is indicated as soon as the pulse rises in frequency and at the same time becomes irregular without any demonstrable cause in patients whose hearts were weak before the attack, or in patients whose hearts have weakened during the course of the disease. The fulness or emptiness of the pulse is important in determining this; if it is still full we can afford to wait a little, especially toward the end of the disease when not infrequently one of the indications of an impending favorable turn is slight irregularity of the pulse."

[1] *British Medical Journal*, p. 1153, November 9, 1895.

[1] *New York Medical Journal*, October 8, 1898.
[2] *Therapeutische Monatshefte*, p. 125, February, 1891.
[3] Aufrecht, "Die Lungenentzuendungen," p. 152, 1897 (Nothnagel's *Spec. Pathologie und Therapie*, Band xiv).
[4] *St. Bartholomew's Hospital Reports*, 1871.
[5] Aufrecht, *op. cit.*, p. 152.

III. *To Control Hyperpyrexia.*—In considering this indication it should always be borne in mind that temperatures ranging up to 104° F. are as normal a feature of pneumonia as dyspnea and rusty sputum. The view which is now generally accepted is that fevers up to this point are the normal reaction of the organism to the invading pneumococci. That these "normal" fevers are even of service to the patient is well shown in a table published by Douglas Powell,[1] in which he demonstrates that pneumococci grow to perfection at 35° and 37° C. (95° to 98.6° F.) and not at all at 40° to 42° C. (104° to 107.6° F.). He also directs attention to the value of the leucocytosis of fever in removing torpid or inert cocci. But, as in all symptoms of pneumonia, we must individualize, for in some patients a fever of 102° F. may inflict more damage than 105° may in others. The thermometer, then, is not the only gage as to the question of the fever being unduly high; the true guide is the patient's general condition.

The use of large, flat ice-bags is the most convenient method for the reduction of undue fever, two or three being applied to the affected area. They are usually well borne and add not a little to the patient's comfort. The ice-bag, however, is no specific against pneumonia, as Mays would have us believe. Occasionally the prolonged use of ice-bags causes intercostal neuritis, as I have observed in two cases. When the nervous symptoms are very pronounced we should not hesitate to resort to cold baths, using them in the same way and on the same general principles as in typhoid fever. If less heroic measures be preferred prolonged immersion in lukewarm baths (90° F.) may be used instead. The contraindications to cold baths are very extensive consolidation of the lungs, marked adynamia, very rapid breathing, feeble heart-action, and arteriosclerosis. Cold sponging and cold packs are often useful. Baruch recommends moist compresses which envelope the entire chest; their antipyretic effect is not very marked and extensive furunculosis (due to the staphylococcus aureus) was noted in two cases at the Mount Sinai Hospital. The large doses of quinin which formerly found so much favor are now seldom employed. The routine usage of the coal-tar products is now, fortunately, discarded; the occasional use of them in small doses is not objectionable.

IV. *To Relieve Suffering.*—The most striking indication under this head is the relief of the pleuritic stitches and the distressing coughs which wear out the patients and rob them of their much-needed sleep. These are best relieved by the hypodermatic injection of morphin, which may be resorted to as soon as possible without unnecessarily weakening the patient by temporizing with other means. The Paquelin cautery often acts magically in quieting pleuritic irritation; no one who has ever used it will temporize with sinapisms, blisters, leeches, poultices, etc. The ice-bag is also very valuable but does not act as promptly as either of the above. Quite recently I have been using a new drug, heroin (diacetic-acid-ester of morphin), as a sedative for these thoracic symptoms, and, so far as my present experience will allow me to judge, I believe that this drug will be found to be a valuable aid in quieting distressing coughs. It has acted well in some cases which were not relieved by codein. It is given in tablet triturates or powders in doses of $\frac{1}{12}$ to $\frac{1}{6}$ of a grain every four hours.[1]

Sleep is an imperative necessity for the overworked patient with pneumonia; to secure it is one of the most imperative indications in the treatment. The nervous exhaustion of which it is often the first herald, may be prevented by the timely use of hypnotics. Of these morphin and chloral are the best. Chloral, when combined with a cardiac tonic is perfectly safe. Balfour, the veteran clinician of Edinburgh, is most enthusiastic in his praise of it. We may also resort to cold packs or alcohol.

Of the value of oxygen in the relief of dyspnea and cyanosis it is difficult to give a final judgment. The opinion is slowly but surely gaining ground among the great clinicians that oxygen has been much overrated in the treatment of pneumonia. Theoretically its employment seems to be so well founded and its application is so simple, the apparent relief so striking that the universality of its use is not at all strange. But does it really do any good in those cases in which we want its effects most? The primary effects soon wear off in serious cases and the dyspnea and cyanosis increase in spite of its free use. Let the enthusiast for oxygen remember that the lung is just as consolidated immediately after the crisis as it was before it, and yet what a change there is in the patient's breathing. This proves that the dyspnea is not entirely mechanical in origin as is generally thought, but is mainly the result of the pneumococcus toxemia. In tiding the patient over sudden attacks of dyspnea and cyanosis oxygen is most useful.

V. *To Control Complications.*—Of these the most important are pleurisy with effusion, empyema, pericarditis, and endocarditis. The treatment of these conditions in pneumonia differs in no wise from that ordinarily pursued and hence requires no special discussion. However, it may be added that effusions into the chest, either serous or purulent, ought to be

[1] *British Medical Journal*, p. 1150, November 9, 1895.

[1] *New York Medical Journal*, November 26, 1898.

removed as soon as the amount of fluid becomes large enough to interfere with the lung in any way.

THE RATIONALE OF BALNEO- AND MECHANO-THERAPEUTICS (SCHOTT TREATMENT) IN CHRONIC HEART-DISEASES.

By ALBERT ABRAMS, M.D.,
OF SAN FRANCISCO;
PHYSICIAN IN CHARGE OF THE DEPARTMENT FOR DISEASES OF THE CHEST IN THE SAN FRANCISCO INFIRMARY.

CLINICIANS no longer regard the Schott treatment in the light of an experiment. They concede its value in properly selected cases of myocardial disease. The real point of contention is, How can we account for the immediate effects of the baths and exercise? From the vast amount of literature on the subject, three theories may be formulated, as follows:

1. Exercise increases the flow of blood through the tissues, thus promoting tissue respiration and improved nutrition, the heart, like all other tissues, participating in the vivification. The emptying of the capillaries and accelerated flow through the veins are also of benefit in diminishing the resistance to the contractions of the left ventricle.

2. The immediate effect on the heart is not real, the apparent reduction in its size being caused by an increased overlapping of the lungs.

3. The effect on the heart may be demonstrated ad oculos by means of the fluoroscope.[1] With the aid of the Röntgen-ray, according to Schott, an actual reduction in the size of the heart can be demonstrated.

According to the experimental and clinical observations of the writer, all three theories share in the explanation of the good results following the Schott treatment. The first theory is only general in its application; it practically explains the benefits achieved from massage, without reference to any special disease. The second theory has an element of truth. That the lungs dilate after the baths and exercise is unquestionably true, a fact which any one reasonably skilled in physical diagnosis may demonstrate. The only question is, Is the lung dilatation really dependent on the baths and exercise? This question may be answered in the negative, as the following facts will tend to prove: In a recent contribution, Moccucci,[2] at the suggestion of Professor Raimond, sprayed the left half of the abdomen with ether in twelve cases of enlarged spleen. Marked reduction in volume of the spleen was observed in all the cases. In repeating the experiments, the writer likewise noted a decided diminution in the area of splenic dulness in all individuals on whom the method was tried, irrespective of the fact whether enlargement of the spleen existed or not. Was this reduction of splenic dulness real or apparent? If apparent, to what was the reduction due? The reduction of splenic dulness was both apparent and real, but especially did the former prevail. If a spray of ether is directed over the region of the spleen, percussion of that organ shows a diminished area of dulness amounting in most instances to obliteration of the percussional area of dulness. Coincident with this phenomenon, one may note superresonance of the lungs contiguous to the spleen. It is the latter phenomenon which explains the apparent reduction in volume of the spleen. If the spleen is examined by aid of the fluoroscope during the application of the ether spray, a slight reduction in its volume may be observed, but it is in no wise commensurate with the reduction ascertained by linear percussion. Therefore, one is justified in concluding that the splenic reduction is more apparent than real, and consequently another explanation must be sought for the diminished area of splenic dulness.

That the cause is resident in the lungs, simple experiments will show. If the ether spray is directed over the heart region the percussional area of that organ will be reduced at once; in fact, the superficial area of cardiac dulness may be obliterated by this maneuver. Similarly, if the spray is directed over the liver region the superficial area of dulness of that organ can be reduced at once. If the spray is directed over the borders of the lungs posteriorly, the lung borders will descend from two to four inches, dependent on conditions which will engage our attention in another communication. Suffice it to say at this time that dislocation of the lung borders by forced inspiration never approaches the dilatation produced by the ether spray. Further experiments demonstrated in brief the fact that the application of any cutaneous irritant, whether the latter be mechanic, chemic, or electric, will always induce acute dilatation of the lungs. Even in emphysematous individuals the application of a cutaneous irritant will still further augment the existent lung dilatation. Acute lung dilatation is a well established condition occurring in capillary bronchitis and in bronchial asthma. Unlike alveolar emphysema, the alveolar ectasia is temporary and capable of eradication when the cause is removed. The writer has shown[1] that acute dilatation of the lungs can be invoked in healthy persons by irritation of the nasal mucosa. The question naturally arises, By what means are we able to establish the fact that

[1] *Medical Record*, March 26, 1898. *Deutsche medicin. Wochenschrift*, No. 14, 1897.
[2] *Riforma Med.*, p. 208, 1898.

[1] *New York Medical Journal*, June 13, 1896.

the application of any cutaneous irritant will cause acute dilatation of the lungs, a condition, it may be mentioned parenthetically, which is of only a few minutes' duration? In making such a hypothesis tenable we summon to our aid the conventional physical signs and the fluoroscope. These aids show that when the skin is irritated by means of cold, by friction, or by a strong faradic current lung dilatation will ensue. The degree of lung dilatation is dependent on the character of the irritant and the severity of its application. The response of the lung to dilatation is always greatest in that part of the lung contiguous to the source of cutaneous irritation.

The physical signs that enable one to recognize lung dilatation are: (1) Diminished respiratory excursions of the lung borders. (2) Extension of the pulmonary percussion-note and obliteration of the cardiac and splenic areas of dulness. (3) Hyperresonance of the lungs. (4) Absence of the apex beat. The fluoroscope is another valuable aid. Auscultation is most untrustworthy as a sign, insomuch as the artificial lung dilatation is of very short duration, not lasting in the majority of instances longer than three minutes after the source of cutaneous irritation has been done away with. Lung dilatation, it must be observed, does not involve both lungs, nor even an entire lung; it spreads from the source of cutaneous irritation, involving primarily circumscribed parts; then if the irritation is severe enough, more remote parts may be involved. In lung showing diminished resonance, the latter can always be increased by rubbing the skin vigorously over the lung percussed. The writer has learned to rely on this sign, which he calls the *lung reflex*, in all doubtful cases of lung dulness, and to test the resiliency of the pulmonary tissue. He has recently directed attention to this phenomenon in the study of pulmonary atelectasis by means of the Röntgen-ray.[1]

Admitting that lung dilatation ensues by the massage and the baths of the Schott method of treatment, the query naturally arises, Does the lung dilatation effect any reduction in the volume of the heart? This must be answered in the negative. Physiologic experiments demonstrate conclusively that the cavities of the heart are filled with the largest amount of blood during the height of inspiration, consequently the area occupied by the heart is greatest during this phase of respiration. The fluoroscope also demonstrates this fact. There is one fact which must be borne in mind, and that is, that a dilated lung is an excellent depletory channel for a heart surcharged with blood, and that if one is desirous of phlebotomizing a patient to aid an overtaxed heart, the purpose can in a measure be accomplished by securing lung dilatation. In this way lung dilatation helps to secure the results achieved by the Schott treatment.

The third theory, so emphatically espoused by the originator of the Schott method, is undoubtedly correct. The demonstrations of Schott[1] convey conviction to the mind of the impartial reader. Do the baths and massage, according to the Schott method, cause this reduction in the size of the heart? The writer answers this query in the negative. He believes that cutaneous irritation, the result of the resistance movements and the baths, can account alone for the reduction in the area of heart dulness. True, lung dilatation following exercise and the baths will diminish the superficial area of cardiac dulness, but the writer has found that lung dilatation lasts only a few minutes, the lungs after this period receding to their original position, yet the diminished area of cardiac dulness persists. Therefore, one is constrained to admit that the myocardium is responsive to the Schott treatment irrespective of any other factor beyond reflex contraction of a muscle following peripheral stimulation of the cutaneous sensory nerves. In children, less often in adults, one may demonstrate by means of the fluoroscope the great contractility of the heart upon the application of a cutaneous irritant to the precardial region. The irritant employed by the writer in his experiments has been a spray of rhigolen. In one instance, the case of a child with a normal heart, the left ventricle was made to recede almost an inch and a half upon application of the spray. The writer does not deny that systematic resistant movement may influence the heart reflex, perhaps even more so than cutaneous irritation alone. What he wishes to prove is the fact that the sensory nerves of the skin are in a great degree responsible for the good effects observed after the Schott treatment.

The writer employs in many of his patients vigorous cutaneous frictions, in lieu of the conventional Schott treatment, with results nearly as good as by the latter method. Relief of dyspnea follows, and there is a marked reduction of the pulse-rate, together with an increase in volume and force.

The following conclusions may be formulated:

1. Lung dilatation follows the exercise and bath treatment of the Schott method, the dilated lung acting as an excretory channel for the overburdened heart.

2. The cause of the lung dilatation is dependent on cutaneous irritation provoked by the exercise and baths.

3. The degree of lung dilatation may be increased by more powerful cutaneous irritation.

[1] *Philadelphia Medical Journal*, November 26, 1898.

[1] *Medical Record*, March 26, 1898.

4. A decrease in the volume of the heart likewise ensues after the Schott treatment.

5. This reduction in cardiac volume is likewise provoked by cutaneous irritation, which is one of the real factors involved in the Schott treatment.

6. Vigorous cutaneous friction by means of a wire brush, such as is employed in the application of the faradic current, will accomplish almost as much as the baths and exercise of the Schott treatment. At the same time, it is a simpler and more expeditious as well as inexpensive method of treatment.

NEURONS; THEIR RELATIONS TO THERAPEUTICS, MEDICAL AND MECHANICAL.

BY DOUGLAS GRAHAM, M.D.,
OF BOSTON, MASS.

THE minute anatomy of the nervous system has been so carefully studied of late years, and the theory of its functions has changed so rapidly that but few of us older fellows have been able to alter the views that were so positively taught twenty-five years ago. And, indeed, among modern students of the nervous system, its nomenclature, structure, and functions are not by any means uniform, indicating either difference of opinion or carelessness of study.

For our present purpose it will be sufficient to recall a few of the recent and most generally accepted investigations in this field. The neuron consists of the nerve-cell and its branches; the latter are one or two axis cylinders, called neuraxons, and from these proceed side branches called collaterals, which end in tufts of fibrils called terminal arborizations. These terminals communicate with the shorter and more numerous processes of the cell, the dendrites or dendrons, so called for their tree-like appearance.[1] The axis cylinders and their collaterals form the nerve-fibers, and their function seems to be to convey impulses from their cells through their terminal arborizations to the dendrites of other cells which receive the impressions. For a long time physiologists firmly believed or taught that the processes of nerve-cells acted by *continuity*, but more recent researches indicate that they act by *contiguity*, and not by continuity at all. But it is difficult to conceive how this can be unless the nerve-cells and their processes are surrounded by a fluid medium. The neuroglia-cells form an insulating material between the nerve-cells, and must either be active or passive when the neurons are in contact or not in contact. According to the most authoritative histologists, the neuroglia-cells are passive, but a very distinguished one, a Spaniard—Ramon y Cajal—is of the opinion that the neuroglia-cells are the active agents, and that when they are relaxed their processes penetrate between the dendrites and terminal arborizations of the nerve-cells, and hinder the transmission of nerve-currents. When the processes of the neurolgia-cells are retracted, then the nerve-cell projections are allowed to come into contact. The neuroglia-cell processes have numerous short arborescent collaterals, and Cajal thinks he has observed two phases of them: one, that of contraction when the cell-body augments, while the processes shorten and the branches disappear; the other, that of relaxation when the processes of the neuroglia-cells are elongated. Hence, it might appear that the movement on the part of neurons is a passive one, depending upon the interposition of the insulating material. It is more than likely that the activity of the neuron has been mistaken for that of the neuroglia.

Be that as it may, it seems to be now pretty unanimously conceded that nerve-cells and their processes (neurons) are distinct and separate from each other, and, therefore, the theory that they somehow act upon each other by contiguity and not by continuity would seem to have some foundation in fact. In health, when free from fatigue, these nerve-cell projections are supposed to come into contact with each other and form various combinations of thought and action, and the machinery of life goes on when the cog-wheels connect, so to speak. Having reached the limits of fatigue, their terminal arborizations and dendrites no longer come in contact by interlocking, overlapping, or however it may be, but recede from each other, and we have in the brain sleep, in the muscles relaxation, until rest brings them back to a normal condition, renews their waste products, and supplies them with nourishment, when they are again ready to respond by contact to appropriate stimuli. When we have disturbance, functional or organic, then the proper combinations of cells no longer connect for the performance of healthy, voluntary, or involuntary functions.

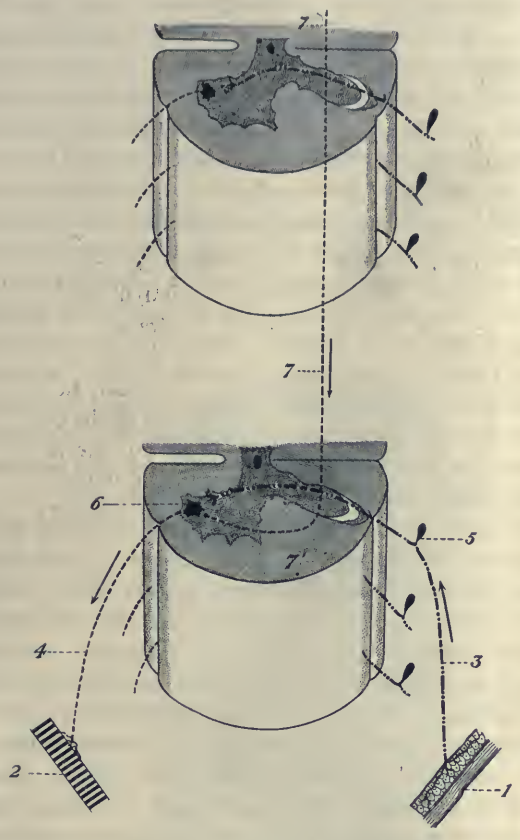
Hypnotism has been invoked to throw light upon this interesting subject.[1] The state of lethargy and

[1] All of the recent medical dictionaries, with the single exception of Lippincott's, either give no definition at all of the new neuron, or else they refer to something else. Thus, "Foster's Encyclopædic Dictionary" for 1894 defines neuron in these words: "In the arthropods, the nervous part of the eye." Gould's, of 1894 and 1898, says neuron is "the cerebro-spinal cord taken as a whole"; also, "a vein or costa of an insect's wing." Dunglison's Dictionary of 1895 does not condescend to notice the meaning of the word; neither does Billings' of 1890. Neither does Clarkson's Histology of 1896 nor Foster's Physiology of 1896 mention the neurons. The American Text-Book of Physiology of 1896 calls the neuraxon the neuron in these words: "From most cells there arises one principal branch . . . called a neuron," thus differing from the classification of Waldeyer, which is now the most recognized.

[1] Dercum, *American Journal of the Medical Sciences*, August, 1896.

relaxation induced thereby would be explained by the retraction of the neurons in the brain so that their terminals do not connect or articulate with the dendrites of the neurons in the spinal cord. Cata-

FIG. 1.



PLAN OF VOLUNTARY MOVEMENT.

1, sensation surface. 2, striated muscular fiber. 3, sensitive nerve-fiber (centripetal) terminating by an arborization around a motor cell and its dendrites. 4, motor nerve-fiber (centrifugal) terminating on the muscular fiber by an arborization (terminal plate). 5, cell of the spinal ganglion constituting with its two prolongations the peripheral sensitive neuron. 6, cell of the anterior nerve with its protoplasmic prolongations and nerve-fiber constituting the peripheral motor neuron. 7, a pyramidal fiber descending from the central cortex, and bending at 7' so as to terminate by a free arborization around the motor cell.—(From Testut's "Anatomy," p. 23, 1897.)

lepsy would then be due to too close contact of the same, manifesting itself by an increase of muscular tone; somnambulism by the combination of certain neurons, whilst others are retracted in sleep, and the sudden disappearance of hysterical paralysis by a removal of contact of the various nerve-cell combinations at fault.

The behavior of nerve-cells and their processes, theoretically, at least, would seem to be similar to that of the white blood-corpuscles in their peculiar ameboid properties. Under the microscope leucocytes anesthetized by the absence of oxygen and the presence of carbonic acid would seem to have their pseudopods retracted. This is thought to form a basis for the histologic theory of sleep, the prolongations of the nerve cells being retracted during sleep and expanding when awake, in dreams some being partially or wholly connected, whilst others that go to make up the conscious *ego* are still contracted in slumber. When we are profoundly absorbed in abstract thought we do not hear the ordinary sounds around us, for certain of our cerebral cells seem to have the faculty of breaking their communications, of somehow closing the door to obtrusive sensations.

Wiedersheim[1] observed in the *Leptodera hyalina* (a species of worm belonging to the nematods) that the nerve-cells were not immovable, but presented changes of form—ameboid-like movements. He studied the living neurons in the brain of this little animal which has so transparent a skin and body that the cells of its brain can be observed while in full activity. These cells seemed to be endowed with a wonderful degree of mobility, changing their forms, protruding their ramifications, and drawing them in, as the ameba protrudes and draws in its pseudopods. The peripheral prolongations of the olfactory cells are pretty surely known to be endowed with motion, and these are quite homologous to the prolongations of the protoplasm of the neuron.

By far the most interesting, satisfactory, and conclusive evidence in favor of this captivating theory that nerve-cells and their projections act by contiguity and not continuity is that of Professor C. F. Hodge of Clark University, Worcester, Mass. His experiments and observations, entitled "A Microscopical Study of Changes Due to Functional Activity in Nerve-Cells," are given in detail in the *Journal of Morphology* for November, 1892. It is one of *the* articles of the Nineteenth Century, and as the journal in which it is published is accessible to but few readers, the methods and results are here reproduced at a length that is more worthy of them than the brief manner in which they have hitherto been referred to. The spinal-root ganglia were chosen for observation. The plan was to stimulate a nerve going to one or more of these ganglia on one side of the animal leaving the corresponding ganglia on the side at rest for comparison. The right side was always chosen for stimulation. The stimulated nerve was never divided so that the contraction of the muscle could indicate the healthy condition of the nerve. At the end of the desired length of time, the stimulated ganglion with its mate on the other side were excised, treated alike, and put on the same slide of the microscope. The following results are from fifteen experiments on frogs and eleven on cats. As the most instructive series is in Table IX, it will be first presented. The experiments were

[1] *Anatomischer Anzeiger*, 1890.

on six cats, in which the right brachial plexus of each was stimulated by an electric current for five hours, fifteen seconds each minute. At the end of five hours the shrinkage of the nuclei was found to be 48.8 per cent. It required fully twenty-four hours of rest for the cells and nuclei to resume their natural size and appearance. The fatigue caused the interstitial substance of the cell to disappear, as shown by vacuoles and lighter granulation, while the nucleus collapsed bodily.

TABLE I.—This showed that stimulation of two and one-half hours, intervals of rest and stimulation being two minutes each, produced a shrinkage of the nuclei of twenty-four per cent.

TABLE III.—Stimulation of three and one-half hours, five stimuli every second, one minute of stimulation alternating with one minute of rest, to sciatic ganglia of right side, caused a shrinkage of thirty-six per cent.

TABLE V.—Stimulation of seven-hours' duration, at intervals of one minute, in a cat caused an average shrinkage of 28.6 per cent.

To show how very carefully these observations were conducted, one hundred cells with their nuclei were measured and their mean diameter ascertained. As a result of fatigue from electrical stimulation there was seen marked decrease in the size of the nucleus, with change from a smooth and rounded outline to a jagged and irregular outline; loss of open reticular appearance, with darker stain. The cell protoplasm showed slight shrinkage in size, vacuolation, and lessened power to stain. The cell-capsule was decreased in size.

The processes of recovery were the reverse of those of fatigue. The protoplasm seemed to recover rapidly, for at the end of six and one-half hours little or no vacuolation could be seen. The nuclei, on the other hand, recovered slowly, not being entirely completed in twenty-four hours.

The effects of normal daily fatigue on sparrows and swallows were also most carefully studied in the same article by Professor Hodge. The nerve-cells of rested birds in the morning were compared with nerve-cells of birds of the same size in the evening after they had been flying about all day. The examinations of the specimens showed a great amount of change after a day's exercise. It exceeded that obtained by artificial stimulation. The greatest per cent. of shrinkage of nuclei, 69.7 per cent., was found in the occipital cortex of a female sparrow that had been working hard all day building her nest. (What could be more interesting?) The spinal ganglion cells of the same bird showed the next highest per cent. of shrinkage, 64.5, as an index of the amount of fatigue. The recuperation from a night's rest must be very great, and in all probability makes up this waste of nerve-cell tissue.

One of his experiments is so full of interest that I give it here in his own words: "On the morning of February 17th it began to rain, and continued nearly the whole day a steady, warm, foggy, spring rain. In the dense cover of the pine-trees over my window the sparrows spent the day scolding and chattering at a great rate. None was observed flying about. At first I decided to abandon the experiment, thinking I should find little evidence of fatigue on such a day. On second thought, however, I concluded to make a rainy-day experiment of it, and see what might be the result. I little expected the sharp and somewhat amusing result expressed in the table. Not an observable sign of fatigue was to be seen in the spinal ganglia, while traces of fatigue were slight in the cells of Purkinje (second layer of cells in the cerebellum). Perfectly clear, however, were the marks of fatigue in the nuclei of the cerebral cortex, as though while confined by the rain the little birds had kept up a deal of thinking."

In order to show how clearly and naturally this original investigator thinks and studies, I will here bring forward some of his own remarks about swallows: "Perhaps the most active bird that we have is the swallow. Quick, vigorous, powerful, careful in all its actions, it must require an enormous amount of nervous energy to coordinate its countless movements for a long summer day. There is nothing lazy nor stupid about the swallow. When their work is done they play games and fly races, and with all the energy required for flying they still have enough left to do no end of talking, for their cheerful *zwitchern* is continually in my ears while I write. At one hundred miles an hour for ten hours, and I have observed them as early as five o'clock in the morning and as late as eight in the evening, a swallow might cover a distance of 1000 miles in a single day. If a bullet of the same might were to traverse the same distance at the same speed, an enormous explosion of energy would be required, and the living arrow can require no less.

"At five o'clock in the morning a large male sparrow was shot, and within five minutes his brain and spinal ganglia were in their proper hardening fluids. A few minutes before eight in the evening another male swallow was taken down, and by eight his brain and spinal ganglia were treated like those of his brother in the morning. Signs of fatigue were everywhere present in the parts examined, but the brains gave the most agreeable surprise. The cerebellum showed the highest per cent. of loss, nearly ten per cent. more than the cerebral cortex. To the cerebellum is ascribed the work of coordination,

and where could be sought an instance of more delicate manipulation than must be required to drive the wing of a swallow as it flits and whirls and balances and wheels and darts the whole day long?''

The brains of honey-bees were also compared, and it was found that those that had been at work all day showed a shrinkage in their cells of from nine to seventy-five per cent. as compared with the brains of similar bees in the morning. Great is the recuperation from fatigue of honey-bees. The food they gather must be very nourishing and sustaining.

That celebrated poison, *woorara*, which the South-American Indians use to poision their arrows with, when injected into the human system has long been known to cause paralysis of the terminal branches and peripheral plates of the motor nerves (peripheral neurons, we must now say), so that the nerve-force no longer connects in such a way as to produce muscular contraction. This poison, according to the experiments of Hammond and Weir Mitchell, seems to act directly upon the heart, probably through the ganglia in its tissue, as well as upon the voluntary muscles. It also destroys the reflex functions of the spinal cord. Strychnin, on the other hand, is equally well known to increase the excitability of the nerve-cells in the spinal cord, manifesting itself in muscular spasm when taken in poisonous doses. In the case of woorara, it might be said that the protoplasmic processes of the nerve-cells can no longer come in contact with the projections of other nerve-cells; in the case of strychnin, that they are in too close contact and cannot let go. It is not improbable that the action of all medicines, and the different effects of the same medicine when taken in small or large doses, may be partly explained in this way by their producing an ultimate chemico-mechanical effect on the nerve-cells in different parts of the body. It is also supposable that the action of different poisons on the nervous system, whether generated in the body itself or introduced from outside may, in great part, be explained in the same way. Thus before long we may have a new system of therapeutics based on a new system of neuropathology.

FIG. 2.

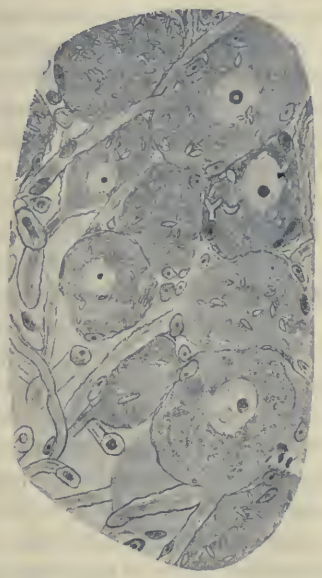


FIG. 3.

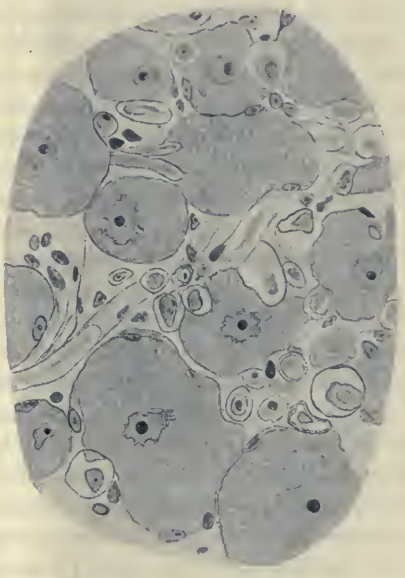


FIGURE 2.—Portion of field from third brachial plexus of an English sparrow, killed December, 1891, at 7 A.M. Osmic acid 1 per cent.; two hours.

FIGURE 3.—Field of corresponding ganglion of English sparrow killed the same day at 7:30 P.M. Like preparation with Figure 2.

These fields demonstrate extreme daily fatigue with probably some lack of food. The queer-shaped clear spaces in Figure 2 are seen to be replaced to a great degree in Figure 3 by faulty outlined irregular vacuoles. Nuclei in Figure 3 appear shrunken as in cases of electrical stimulation.—(Hodge, *Journal of Morphology*, vol. vii, p. 168, 1892.)

We have all felt the lassitude of extreme fatigue, which might now be explained by saying that it is due in great measure to shrivelling of the nerve-cells, preventing contact of their projections, and most of us when young have probably suffered from cramp in our calves after a hard-day's tramp, which, according to this theory, would be due to the nerve-cell processes, the terminal arborizations and the dendrites having got too closely interlocked from the irritation of waste products, showing itself in muscular spasm. That we may have from retained waste products of excessive exertion, both relaxation and cramps, is not without its analogy in poison introduced into the system from without. Lead, for in-

stance, causes paralysis and relaxation of the extensors of the hands, while in the abdomen it often induces spasms, cramps, and colic. From experiments in animals, Dr. Earnest Harneck[1] concluded that lead colic is due to intense excitation of the intestinal ganglia by the lead, producing arrest of peristalsis from spasm of the muscular coat. Shall we say that the neurons that preside over the nerves, that move the extensors have their protoplasmic processes immovably retracted so that they can no longer vibrate and articulate, while those that control the intestines and abdominal walls are in too close connection, spasmodically interlocked, or anchylosed?[2] However this may be, strychnin is one of the remedies relied upon for the paralysis of lead after its elimination by other remedies, and perhaps it acts by bringing the neurons into better condition for normal contact. A new explanation may thus be afforded for the action of excitomotor remedies, such as strychnin, ergot, digitalis, etc.; and also, though just the opposite for depressomotors, such as the bromids, chloral, gelsemium, conium, etc. The action of other remedial agents, internal and external, might be explained more or less in the same way.

Tea and coffee are said to stimulate the ameboid movements of protoplasm. At times they certainly aid in stimulating thought and in forming new combinations of ideas, perhaps by bringing about different relationships of the cortical neurons. Tobacco, on the other hand, by its sedative and relaxing properties seems to suit some students better in the collection of their thoughts, which, according to this theory, would be by causing relaxation of cortical neurons that had been too much preoccupied in loving embrace or close combat, and thus allowing others to form new combinations.

The effects of tonics, stimulants, and sedatives, whether of a chemical or mechanical, electrical, thermal, or dynamical nature, upon central and peripheral neurons are probably similar, simultaneous and parallel to what they are upon voluntary and involuntary muscular fibers. Hence the state of the muscles is very likely a good barometer of what is going on at the other ends of the nerves that supply them in brain or spinal cord. Every muscle-reader is a mind-reader, and he who has the *tactus eruditus* well developed, be he a physician or a masseur, has an immense advantage in the diagnosis and treatment of neuromuscular troubles. In two cases of hemiplegia recently under my observation there was much spasm (contracture) of the flexors of the hand and arm. The patients were both receiving the faradic current, which is well known to stimulate muscular contraction, and were taking strychnin internally. As soon as the faradism was stopped the spasm became less; and later when the strychnin was left off there was still greater improvement; the contracture almost entirely disappeared, allowing the opposing paralyzed extensors to come into play as much as they could. In these cases the effects of the strychnin and faradism might have been, and probably were, simultaneous upon central and peripheral neurons, terminal arborizations, and muscular fibers.

The effect of stimulation upon protoplasm is, when sufficiently strong, to cause an immediate cessation of movements and withdrawal of protruded processes into the main substance. Upon cessation of the stimulation, if it has not been too strong, the movements will begin again, but if so severe as to injure the living substance they stop forever. Mechanical stimuli and abrupt changes of temperature act in like manner. It is quite conceivable that nerve cells and their projections behave in the same way.

Recent experimental studies tend to strengthen the theory that neurons act by contiguity and not by continuity. After slight injury to the head and spinal column Lutzenberger studied the changes in the nervous system of guinea-pigs and found that the general disorders of nutrition showed themselves most prominently in the increase of the number of ganglion-cells that presented all styles of retrogression.[1] Parascondola has also made an extensive study of the effects of shock upon guinea-pigs. He stretched them out flat and gave them a sharp blow upon the abdomen with a flat ruler. The animals reacted in various ways. Most of them after a period of quiet seemed to recover; but in from thirty-six to forty-eight hours they died with symptoms of exhaustion or shock. The cerebrum, cerebellum, medulla, and spinal cord were removed for microscopic examination. The alterations found were deformities of the cell bodies to the extent of actual atrophy, node-like swellings on the dendrites and fragmentation of the same. There was also found degeneration of the posterior roots, proceeding even to degeneration of the posterior columns. Changes in the cellular protoplasm were also seen—rarefaction proceeding to vacuolation in the nucleus, and vesicular swelling of the nuclear protoplasm.[2]

[1] Biddle's, "Materia Medica."

[2] Dr. T. Lauder Brunton tells us that one of the most painful experiences of his life was that of being nearly tickled to death by a nurse when he was a small boy. He can never forget the agony of it. This leads him to believe the statement that Simon de Montfort, during the persecution of the Albigenses, put some of them to death by tickling the soles of their feet with a feather. The neurons may have become so tightly interlocked that they could not let go. Perhaps something of the same kind occurs in tetanus.

[1] *Annali di Neuroglia*, 1897.

[2] *Archives de Physiologie normale et physiologique*, 1898.

These were very serious alterations and all tend to throw light upon the nature of fatigue, shock, neurasthenia and hysteria arising from injury. But percussion, though harmful in large doses, is often beneficial in small ones, stimulating languid nerves and muscles, and sometimes relieving painful ones by over-inciting them and wearing out their irritability, and presumably at the same time favorably influencing the vibrations and connections of nerve-terminals and dendritic processes.

It seems rather curious that those who have furnished the clearest objective evidence that nerve-cells and their projections act upon each other by contiguity and not by continuity are not the ones that have advanced this theory at all. Thus Professor Hodge in the *Journal of Morphology* for 1892, the New York *Medical Record*, March 26, 1898, and in previous publications says nothing of this theory, and yet he has furnished the clearest objective evidence of it. Credit is given to two Frenchmen, one, M. Lépine, for having first advanced this theory in the *Revue de médicine* in 1894, and the other, M. Mathias Duval, for agreeing with him in the *Comptes rendus de la societé de biologie*, 1895. These gentlemen must have exceedingly brilliant imaginations, for they scarcely ever refer to the labors of others, and not at all to those of Professor Hodge, that would furnish them with objective evidence confirmatory of their theory. This seems to be always a rapid way of becoming famous. Their hypothesis seems to have been evolved from a single case of hysteria of a peculiar kind that suddenly passed from complete deafness to acute hearing, and which they explained by saying that "the anesthesias, sensitive and sensorial, and the motor paralysis in the hysterical are due to imperfect contact between the ramifications of the nerve-cells"; or the disappearance of these morbid states is owing "to an erethism of the prolongations of the nerve-cells, by which they are brought into normal contact, attention sufficing to reestablish the contacts."

When distinguished gentleman like these are allowed to hold this theory on such insufficient evidence and with so little regard to the testimony of others, it behooves us to ask if this theory or something like it has not been promulgated before, for it has given these Frenchmen great renown, and neurologists are disposed to believe in it. William H. Munroe of Boston was a very intelligent layman who had studied anatomy and physiology to a moderate extent. He died in 1887, at the age of eighty years. For the last thirty years of his life he was firmly and enthusiastically of the opinion that somehow or other in disease the nerves did not connect properly, and "to remedy this evil" (as he used to say), and to make them connect he relied on manipulation by hand, a mode of treatment in which he became very skilful, and which, viewed from a recent light, he not altogether inappropriately called the nervous-adjustment cure. He had a large clientele of intelligent people, most of whom were fascinated with his theory, while physicians smiled incredulously at the theory and the seeming irregularity of the practice. An association with him for three years, before I studied medicine, from 1867 to 1870, convinced me of the efficacy of this treatment in disturbances of nerves, muscles, and joints, mostly of a chronic nature. From observations of massage in this country and abroad, extending over thirty years, I may, perhaps, be allowed to say that he certainly had the best single method of this art that I have yet met with. Wherever there was undue tension of the tissues, there the nerves were supposed to fail in properly connecting, and the thorough, agreeable, and efficacious manipulation of the offending region often proved beneficial; and even when it failed to do good, it left behind it a pleasant impressson far different from that after the scraping, greasing, or slapping that too often passes for massage. Indeed, the word massage is becoming subject to so much abuse that, perhaps, such an expression as manipulation or manual treatment had better be adopted in place of it, for more depends on the skill and experience of the manipulator and his understanding of the disorders, than in the use of any "highfalutin" words to cover ordinary rubbing.

From the days of Hippocrates, history affords parallel examples of theories formed in advance of their proof. For our present purpose we will cite but one, that of Asclepiades (128–56 B. C.), a Greek physician, who founded a school and practised at Rome, and was very popular with the Romans on account of his simple and agreeable remedies. He thought that physicians ought to cure their patients safely, quickly, and pleasantly, and with this object in view he relied mainly on diet, bathing, exercise, and friction. He considered that the body had innumerable sensitive canals running through it, in which moved the nutritive juices and plastic atoms. So long as this movement went on without disturbance, health continued. But disturbance caused sickness, and the normal movement of these juices would be disturbed by abnormal increase of their atoms, by their irregular distribution, by too great blending together, and by too swift movement of the same, and also by dilatation and constriction of their canals. Proceeding on these principles, or theories, rather, Asclepiades renounced almost entirely the use of medicines, and

attempted to restore free movement of the nutritive fluids and plastic atoms by means of rubbing. The soporific effects of gentle stroking he also recognized. With friction he combined active and passive motion, and no doubt but he was an adept at massage in his day.

Asclepiades thus foreshadowed the discoveries made long after of the functions of the vasomotor nerves and of the muscular coat of the blood-vessels in regulating the caliber of these vessels; and to a large extent, also, he predicted the pathology of inflammation in the congregating of white blood-corpucles.

Seen from the light of recent studies of the neuron, the experiments of Professor Golz of Strassburg, narrated in *Virchow's Archives* for 1875, possessed new interest. After opening the abdomens of animals and applying percussion by light and frequent blows over the stomach and intestines, the peritoneum at first became paler from constriction of the vessels, but continuance of the percussion caused dilatation. When the percussion was first applied over the abdominal walls, and these opened afterward, it was seen that the vessels of the abdominal cavity, especially the veins, were dilated and distended with blood. The heart's action was considerably retarded, owing to the reflex influence of the percussion upon the inhibitory action of the vagus, and also to the sudden withdrawal of blood into the vessels of the abdomen. Continued still longer, the pulsations of the heart became less, and finally ceased, as did also respiration.

Here we see the primary effects of percussion (a form of massage) causing constriction of blood-vessels from stimulation of their vasomotor nerves and muscular coat. Longer continued, this same percussion produces an opposite effect, dilatation of vessels from over-inciting them, and wearing out their irritability, and with still more of it pulse and respiration cease. Corresponding to the first influence of percussion, we would now suppose that the projections of the neurons had been brought into closer juxtaposition; to the second, that they had got somewhat tired out and relaxed; to the third, that they had lost their capability forever to connect, and the animal dies. It would be exceedingly interesting to examine the neurons connected with the solar plexus of prize-fighters when they knock the wind out of each other by a blow upon the epigastrium.

If this theory of the mechanical action of nerve-cells and their processes holds, then remedial mechanical measures, such as massage, kneading, stroking, percussion, passive and resistive movements, all of which act upon peripheral and central neurons, will receive an additional explanation to what we already know of their effects upon skin and muscles, blood vessels, lymphatics, and nerves. We would then say of a nervous person with too much tension, who cannot let himself go to rest, that under the influence of appropriate manipulation he is soothed and quieted to sleep, that his peripheral and central neurons have been coaxed to relax; while on the other hand, if such a patient should receive too vigorous manipulations the peripheral irritation caused thereby would induce both voluntary and involuntary resistance, increase the tension and bring the processes of the neurons into still closer contact. Or take languid individuals with flabby tissues and give them pretty vigorous manipulation. Their muscles tone up and become firmer; then we will have to presume that their neurons have come into closer and more natural contact. It was old Hippocrates who said in his aphorisms that "Hard rubbing binds; soft rubbing loosens; much rubbing causes parts to waste; moderate rubbing makes them grow."

By means of training and repeated efforts paths of resistance in brain, spinal cord, and nerves are made easier, thought, will, and action become less difficult, and the terminal arborizations of the neuraxons and their collaterals connect more readily with the dendrites of the nerve-cells, constituting what is usually called education, which should be so adjusted

"That outer man and inner soul
"Maintain their balance true
"Till every string on being's lyre
"Gives forth its music due."

On the whole this theory that nerve-cells and their processes act upon each other by contiguity and not by continuity would seem to be consistent with the behavior of tissues in other parts of the body, and even with the propagation, prolongation, and cessation of life itself.

CLINICAL MEMORANDUM.

THE DIAGNOSIS OF TRICHINOSIS BY MEANS OF THE GREAT INCREASE OF THE EOSINOPHILES IN THE BLOOD; REPORT OF THE FOURTH CASE.

By THOMAS R. BROWN, M.D.,
OF BALTIMORE, MD.

In 1897, in reporting the great increase of the eosinophiles in the blood in a case of trichinosis[1] this being the first mention ever made of an association between trichinosis and eosinophilia, I made use of the following words: "The presence of such quantities of eosinophiles in the blood suggests their possible diagnostic value in trichinosis, and perhaps, if it be found on further studies to be characteristic of this disease, may help to clear up the

[1] *Johns Hopkins Hospital Bulletin*, pp. 79-81, April, 1897.

cases which are regarded *intra vitam* as rheumatic in nature and which, years afterward, the autopsy-table shows to have been cases of trichinosis." That the disease is not such a rare one in America as is usually supposed and that it may be definitely diagnosed by the remarkable increase of the eosinophiles in the blood is amply proven by the results obtained since that time.

In 1898 I reported[1] two additional cases wherein, from the eosinophilia alone, the condition of trichinosis was diagnosed, and in all three cases, living, actively motile, non-encapsulated trichinæ were found in small pieces of muscle removed from the patient. The concluding sentences of that article may be of interest in this connection: "From these observations it is fair to conclude:

"1st. That there is a marked increase in the percentage of eosinophilic cells in the blood in trichinosis.

"2d. That the increase may be used as a diagnostic sign in this disease.

"3d. That this diasease in its sporadic form is more common than has hitherto been supposed, as shown by the discovery of the three cases above described within a comparatively short period at the Johns Hopkins Hospital.

4th. That a systematic examination of the blood should be undertaken in cases with indefinite intestinal, muscular or articular symptoms in the hope that in some, at least, of the hitherto doubtful cases a diagnosis may be made."

I have now to report another case of this disease, diagnosed entirely by means of the blood examination, the diagnosis being verified by the subsequent removal of a small piece of muscle and the finding of living, actively motile trichinæ therein.

Date. 1898.	Leucocytes, per c.mm.	Percentage of Various Forms.			
		Polymorphonuclear Neutrophiles.	Small Mononuclears.	Large Mononuclears and Transitional Forms.	Eosinophiles.
Aug. 8.	18,100				
Aug. 10.					48
Aug. 13.		43	7·3	1.7	48
Aug. 28.	8200	45	14.5	2	38.5
Sept. 4	7900	49	18.5	2.5	30
Sept. 18.		55.2	19.6	2	23.2
Sept. 25.	9600	61.5	16	2.5	20
Oct 2.	8750	54	19 5	2.5	24
Nov. 5.		49	40	2.5	8.5
Nov. 13.		64 5	27.	3	5.5
Nov. 20.		61	27	4.5	7.5

RESULT OF BLOOD EXAMINATION IN A CASE OF TRICHINOSIS. (J. L., CASE IV.)

'J. L., white, aged thirteen years, was admitted to the Johns Hopkins Hospital, August 4, 1898. He complained of headache and pain in the legs; he had never been sick before. On July 30th he commenced to have headache, which was still present at the time of his admission. On July 31st he had a slight nose-bleed, while during two days, July 30th and 31st, he had had pains in the shins. He had a good appetite, the bowels moved regularly every day, and he had not had chills, nausea, nor vomiting.

The physical examination showed the patient to be a small boy of dull appearance, with eyelids somewhat swollen. His heart and lungs were negative. There was no abdominal tenderness; no rose spots. The spleen was not palpable; tongue thickly coated; considerable gurgling in the right iliac fossa. There was neither swelling nor tenderness in the muscles of the arms or legs; the throat was negative. The temperature range was between 98 and 100.2° F. during the first four days and the case was at first regarded as a mild febricula of doubtful origin, possibly typhoid fever.

On August 10th an examination of a specimen of freshly taken blood was made, and one was at once struck by the large number of eosinophiles present, these cells with their large, highly refractive granulations being unmistakable. A differential count made on dried specimens, stained with the Ehrlich stain, showed that 48 per cent. of all the white blood-cells were eosinophiles, and this *at once* led to a diagnosis of trichinosis being made.

Further questioning of the patient elicited the fact that about one week previous to his admission to the hospital he had had pain in the calf-muscles of both legs, never very great, while there had never been any pain in the other muscles of the body. The legs had never been swollen, but the eyelids had become slightly puffy four days before his entrance. He had not had abdominal pain or diarrhea. On being questioned as to whether he had recently partaken of hog-meat of any kind he remembered having eaten of raw sausage on July 10th, and of cooked ham on July 23d.

On August 11th a small piece of muscle was removed from the left gastrocnemius muscle under cocain anesthesia; this was hardened in formalin, and subsequent microscopic examination showed the same changes as described in full in the preceding three cases (*loc.cit.* p. 328, *et seq.*); the presence of young, non-encapsulated trichinæ in some of the muscle-fibers, about them a fresh, active myositis with many eosinophiles among the cells present, and various degenerate changes in the muscle-fibers themselves, marked swelling and proliferation of the nuclei, longitudinal and transverse splitting of the fibers, etc. The patient's temperature varied between 96.2° and 99.5° F. from the fourth to the twelfth day of his stay, after the twelfth day being practically normal. The urine was negative throughout and the blood did not give the Widal reaction.

[1] *Journal of Experimental Medicine*, vol. iii, No. 3, pp. 315-347.

The patient was discharged from the hospital on August 22d, feeling perfectly well. During his stay in the hospital his blood showed a leucocytosis of 18,100, while upon each of the two occasions on which a differential count of the leucocytes was made, it was found that 48 per cent. were eosinophiles. As in the other cases reported, the nucleus of the eosinophiles was polymorphous, *i.e.*, identical in form with the nucleus of the neutrophiles.

As I thought it would be of considerable interest to determine how long the condition of eosinophilia lasted after the disappearance of all other symptoms of the disease, the patient was persuaded to return on various occasions within the next three months to have his blood examined. Although the number of leucocytes per cubic millimeter diminished rapidly and was practically normal after the last part of August, nevertheless, the decrease in the percentage of eosinophiles was very gradual, and even on November 20th, the date of the last count, more than three months after the complete disappearance of all other symptoms, a slight eosinophilic increase was still present, the normal percentage of eosinophiles being from 1 to 3 per cent. Elsewhere [1] I have shown in the third case reported by me that the blood was normal both as regards number of leucocytes per cubic millimeter and percentage of the various forms five months after the complete cessation of all other symptoms.

Where the eosinophiles come from, in trichinosis, is still undecided, but a study of the blood and muscle in the four cases leads one to the conclusion that they are probably derived from the polymorphonuclear neutrophiles, those cells normally constituting from 65 to 80 per cent. of all the white cells of the blood, and that this transition takes place in the affected muscles. This is supported by the inverse relationship which exists between the eosinophiles and the neutrophiles in the four cases, by the identical character of the nuclei of both forms, *i.e.*, they are both polymorphous and that what are apparently transitional forms between the two were found in the affected portions of the muscle. Thus the addition of this case makes four cases in all in which this association between trichinosis and a very high grade of eosinophilia was present; in the first case, the eosinophiles reached 68.2 per cent. of all the white blood-cells; in the second 42.8 per cent., in the third 49 per cent., and in the fourth 48 per cent., while the total number of leucocytes per cubic millimeter reached 35,000 in the first case, 13,000 in the second, 17,000 in the third, and 18,000 in the fourth.

Just as this article is being brought to a conclusion I learn that a fifth case has just been diagnosed by an eosinophilia in the neighborhood of 50 per cent., with the subsequent verification of this diagnosis by the removal of a small bit of muscle and the finding of the actively motile parasites therein.

Of the four cases I have reported, in only one, the first, was there anything in the clinical history to make one even suspect that the case was one of trichinosis, and it was only by means of the remarkable eosinophilia present, so easily made out by merely glancing at a fresh specimen of the blood under the microscope, that the diagnosis was made. In fact, the second and fourth cases were regarded as probable cases of typhoid and the third as estivo-autumnal malaria before the blood examination was made.

Of course in a few other conditions an eosinophilia is noted in the blood, notably in bronchial asthma during the paroxysm and in splenomyelogenous leucemia, but the eosinophilia in these conditions is of not so high a grade and moreover, the diagnosis is easily reached by means of other signs and symptoms. But in trichinosis, except in the most marked cases or in the epidemic form, a diagnosis is impossible without a blood examination, and in conclusion I would like once more to suggest the great advisability of making the examination in febrile cases of doubtful origin and in cases with indefinite intestinal or muscular symptoms. This examination will require but a few moments and by the demonstration of a marked eosinophilia it may clear up a case now and then which otherwise would go down to posterity as another of that great class of cases, the undiagnosed.

[1] *Boston Med. and Surg. Journ.*, September 1, 1898.

SPECIAL ARTICLE.

THE GARRISONING OF OUR TROPICAL POSSESSIONS.

THE METEOROLOGIC AND TELLURIC CONDITIONS OF CUBA AND PUERTO RICO.

By SENECA EGBERT, M.D.,
OF PHILADELPHIA;
PROFESSOR OF HYGIENE AND DEAN OF THE FACULTY IN THE MEDICO-CHIRURGICAL COLLEGE OF PHILADELPHIA.

No. 2.

INASMUCH as both Cuba and Puerto Rico lie south of the Tropic of Cancer their climates are naturally considerably warmer and also less subject to extreme variations than that of our own country and latitude. Cuba, which with her adjacent islands has an area almost exactly equal to that of the State of Pennsylvania, lies some ninety odd miles south of the Florida peninsula and the Bahamas, and separates the current which sweeps strongly and westwardly along its northern coast to meet the Gulf Stream from the warm waters of the Caribbean Sea that wash its southern shores. Long and narrow in shape, with rather low mountain ranges forming the main axis, and in the situation described, one could almost certainly predicate the meteorologic conditions of the island without further information. It will be well to mention, however, that although it has a length through the center of about 730 miles, it has an average width of only 80 miles; that the mountain ranges attain their greatest elevation and have their highest peaks in the southeastern portion of the island, and that the rivers which mainly trend either to the north or south, are numerous and, for the most, short and not navigable for extended distances.

Puerto Rico lies more than 500 miles to the eastward and somewhat south of Cuba, and is much smaller than the latter, being only 108 miles long and 37 broad. It also

extends east and west and has a range of low mountains parallel to and somewhat south of the longitudinal axis. The highest peak (3600 feet) is, however, in the northeastern portion of the island. It is evident that the rivers, flowing as they do either to the north or south, cannot be of any great length or size.

Situated as they are, the climate of these islands, like that of the other West Indies, will obviously be of a tropical nature, especially at the sea level; but, as elsewhere, altitude will have its modifying effect. Thus, the early Spanish discoverers made a distinction as to localities, classifying them as the Tierra Calientes (hot lands), Tierra Templada (temperate lands) and the Tierra Fria (cold lands). Along the coast, both north and south, the temperature averages between 70° and 74° F. in the winter months and 82° or 83° F. in summer, the average for the whole year in Havana being about 77° F. Inland and in the hill country at elevations above 300 or 400 feet, the temperature occasionally falls to the freezing point and frosts are not uncommon. The Tierra Templada lie at elevations between 2000 and 4000 feet, and have a climate similar to that of our Southern States, and more temperate than that of the lower levels. The Tierra Fria are practically above the level of 4000 feet, are necessarily limited in extent and have an average temperature and climate warmer than their title would indicate, for it is said that snow is never seen in Cuba. For the western part of this island, cool north winds, coming from the United States and crossing the Gulf Stream, are not uncommon in the dry or winter season.

In the coastal regions, and especially in Eastern Cuba, the annual rainfall is heavy, sometimes aggregating 70 inches. However, the "Encyclopædia Britannica" is authority for the statement that the average for seven consecutive years in Havana was only 40.5 inches, or but little more than the annual average for Philadelphia. More than two-thirds of the rain falls in the wet season, between the first of May and the first of November, and from July until the end of the season thunder showers are of almost daily occurrence. It is said that if the heavy rains are late in coming the heat becomes more oppressive and the conditions favoring epidemic diseases are intensified. The thunder showers usually occur in the late afternoon. After a day of overpowering heat and, probably, of excessive humidity, there is a heavy downpour of rain, accompanied by sharp and vivid thunder and lightning. This may last for two hours or more, when it quickly ceases and evaporation from the overheated and surcharged earth begins and a heavy fog or mist is formed which envelops everything and doubtless carries in it myriads of the miasmatic organisms that infest the soil.

It was partially on account of such conditions that our troops had such a disastrous experience in the recent Santiago campaign. The daily drenchings and subsequent cooling due to the rapid evaporation not only made the men, who had been exposed to the intense and exhausting noon-day heat, extremely uncomfortable throughout the night, but quickly produced the intense chills that so depressed the soldier's constitution and vitality that he became an easy prey to the pathogenic organisms carried by the all-prevading fog, or that most certainly infected the surface- and ground-water that he ignorantly or recklessly drank to quench his thirst in the burning heat of the following day. Small wonder is it that so many succumbed to the malarias, the *calenturas*, and the yellow fever. Rather may we be surprised that any escaped the infection of these maladies. Only the knowledge and wisest application of sanitary laws and measures will serve to protect those who are exposed to such conditions before they are thoroughly acclimated.

Puerto Rico is considered to be cooler and pleasanter in climate than Cuba, but the difference is only one of degree and both islands have their superabundance of rain in the wet season, and especially in their eastern provinces. Here the high and cooler peaks and elevations of these localities stand like sentinels to intercept the warm trade winds, overladen with moisture and continually sweeping in from the Atlantic, and the heavy rainfalls and the marked electrical displays are but the natural physical results of these conditions.

Hurricanes are in reality not so frequent in these islands as is commonly believed since several years sometimes intervene between them. When they do occur it is most likely to be in August, September, or October, when the other atmospheric disturbances are greatest and most common.

The soil of the two islands and their geologic features are quite similar in character. The former is mainly calcareous in nature, with underlying granite and other igneous rocks and, in western Cuba, outcroppings of serpentine and syenitic formations. A marked red or brown tinge shows the presence of iron through most of eastern Cuba, but this disappears toward the center and gives place further westward to the lighter and yellowish color of the prevalent sandstone and gypsum formations.

On account of the warm and equable temperature, and the large amount of moisture, vegetation is luxuriant throughout the greater part of both islands; humus is, therefore, abundant, and the fertility of the soil has long been almost proverbial. Tobacco, sugar-cane, tropical fruits, and trees all thrive in the coastal regions and lower levels, while at moderate altitudes coffee has been and doubtless will be in the future even more profitably cultivated. The opportunity for the successful growth of the various crops of the temperate zone here presents itself, and no one can now estimate Cuba's value alone as a nation's garden.

But from the very nature of things these conditions which are so favorable to commercial agriculture, also foster the almost unlimited development of the causes of many infectious maladies. With the constant heat, moisture, lime and other salts, and the abundance of decaying organic matter, almost any kind of "germs" would have no difficulty in multiplying luxuriantly in the soil, and with the numerous streams and the dismal fogs to carry them thence, the frequent occurrence of the respective diseases is only to be expected. Add to this the depression and increased susceptibility to sickness produced in the unacclimated by excessive and unaccustomed

heat, unsuitable clothing, insufficient or improper food, and bodily fatigue, and nothing but inevitable illness can be expected. However, there is no evidence that Cuba was originally the habitat of any of these pathogenic organisms, excepting possibly those of a malarial nature which are to be found in all tropical countries. In fact, until comparatively recently the interior and especially the elevated portions of the island were remarkably free from any epidemic or endemic diseases, and though no one today can say that any particular locality has not been infected by the sick of the troops of both sides which have been passing and repassing during the last three years, it is entirely possible and probable that with the enforcement of prompt and proper sanitary measures these favored localities can be speedily restored to their pristine salubrity. On the other hand, the conditions are far different along the coast line and especially in the cities where large numbers of people have been neglecting the laws of hygiene for years and where everything that could favor the spread of disease from person to person has had full power and sway.

In the forests and jungles, where the sunlight is veiled from the earth's surface by the riot of vegetation, where the atmospheric humidity is almost if not quite at the saturation-point and where the soil is soaked and dank from the daily showers, the organisms of malaria, of strange fevers, and of the *calenturas*, have the choicest of breeding-places; and whether one believes or not in the ascensional powers of evaporation and that the dense fogs can lift these organisms bodily from the surface of the soil, no one doubts that both the air and the ground-water of such places are full of peril and poison to him who partakes of them. And of what house, hut, or hovel can we be certain that it has not been infected by some yellow-fever or smallpox patient who may have occupied it but for a night or a day? Danger may lurk in all of these, and the warning should be positive and firm that our garrisoning forces may not make use of these isolated or collected shelters that they may find apparently ready to their service throughout the country districts. It has already been shown that the marines at Guantanamo burned the rude and probably infected buildings which they found there, observed sanitary precautions and escaped disease almost absolutely throughout their ten-weeks' stay; while the neighboring army only a few miles distant, under similar climatic conditions, but neglecting hygiene and using like structures for shelter and, after the battles, for hospitals, quickly and extensively developed malaria, yellow fever, and other ills. Making every allowance for the emergencies and difficulties with which the larger body of troops was confronted, and for the impossibility of satisfactorily enforcing rules and regulations theoretically perfect and proper at such a time and under such circumstances, the deductions to be drawn from the above comparison must be plain to all. It is probable that in such crises disaster will always come upon men ignorant of the laws of hygiene, no matter how stringent the rules from headquarters intended to govern their physical welfare; but if they are individually educated and informed as to these matters and know the reason and importance of the respective precautions, then each man becomes a sanitary guard for himself and for all his comrades. In other words, why should not the Army have the same drill and instruction in hygiene and its laws as the Navy and Marine Service, and why might there not be equally good results from such teaching?

Referring finally to the larger Cuban cities where the laws and methods of modern hygiene have been almost unknown and certainly unpractised for many years, the risks of disease are probably even greater than in the forests. Accumulations of filth that have been growing for decades, polluted water-supplies, ignorance of disinfection and its power for good, and a total disregard of the dangers to which one sick with an infectious malady may subject others have worked together to render many of the larger towns and cities veritable hotbeds of disease. The consular reports for last month show a death-rate in Havana for the week ending December 1st equivalent to an annual ratio of 109.8 per thousand, or five times that of Philadelphia or New York, and that that of the City of Cienfuegos is even worse. In these cities fully half the deaths were from infectious diseases more or less readily preventable, and the same official reports show that the municipal and physical conditions are such as to warrant and demand the most vigorous sanitary action *immediately*. Probably the same stories can be told of every other large community in the island, and again making every allowance for the deprivations and demoralization of the recent war we can but admit that disease and pestilence could scarcely have had more freedom and license for destruction in modern times than in these cities under Spanish rule.

But fortunately the conditions are not hopeless and a great opportunity presents itself for a convincing demonstration of the powers of modern sanitation and preventive medicine. We all regret the loss of Colonel Waring, and all appreciate the possibilities that lay in his conduct of affairs in Havana, had he been spared for the work. But in Santiago, where the conditions were as bad, if not worse than those mentioned, General (but also Doctor) Wood has created reforms and made improvements in a few short weeks that seem almost incredible to even those of the strongest faith. The following tribute to his work is worthy of quotation here in full:

"General Wood, who was given military command of the City of Santiago, has already demonstrated in the most brilliant way what good administration can do for a region like Cuba that has suffered for centuries from hideous misgovernment. Our governor found the city indescribably filthy. He promptly opened the clogged drains; organized a street-cleaning service; enforced compulsory rules for the removal of garbage and domestic waste; established a disinfection-corps in connection with an efficient medical service; put the hospitals into good working condition; cut the death-rate down seventy-five per cent.; averted a yellow-fever epidemic that was considered inevitable; restored, repaired, and greatly improved the water-supply; organized an efficient general police system, discarding the hateful Spanish uniforms;

cleaned up the water-front and devised plans for the dredging and permanent sanitation of the harbor; established a strictly regulated relief-service for the benefit of the thousands of half-starved people who returned to the city from the places to which they had withdrawn in the period of hostilities; restored the administration of justice under his own immediate direction; opened the schools and took the children off the streets, and in a variety of other ways brought order out of confusion.

"General Wood has set the standard at Santiago, and what has been done there must not only be continued and completed, but must, either by General Wood himself or someone else, be accomplished at Havana and at every other important town in the islands formerly administered by Spain that may come under the responsibility of the Government of the United States.

"It is extremely fortunate that General Wood, who is a distinguished physician as he is also a renowned soldier, has shown the War Department exactly what an American military government of conquered Spanish territory can accomplish for the welfare of the innocent inhabitants."[1]

Let us hope and urge that like reforms and work be carried on throughout all the island by American energy and skill; but let us also insist that in the doing of this work and in all the duties required of our troops during our time of occupation and administration every precaution be taken that will preserve their health and lives and advance their welfare. Some sacrifices must be made, but much of the labor can be and should be done by those who are acclimated, and it is only fair to insist that, so far as possible, those whose duty is that of a garrison should have every sanitary precaution taken for them.

But little remains to be said of the nature and history of the exciting causes of the diseases which have been referred to in this article. The excellent articles on "The Cuban Fever Plasmodium," by Dr. Watkins, and on the "Comparative Morphology of Malarial Plasmodia," by Dr. Ewing, published in the MEDICAL NEWS for December 17, 1898, give far better and fuller information of these pathogenic organisms than our space here permits. To these we can undoubtedly ascribe the malarias and paludal fevers that have been mentioned. All are familiar with the causes of enteric fever, dysentery, tuberculosis, smallpox, etc., that so largely add to the high mortality rates of the Cuban cities, and their further discussion is thus unnecessary.

Of the cause of yellow fever alone a few remarks may be new or instructive to some. Despite the careful work of such investigators as Woodward, Sternberg, Freire, and others, the actual cause of this disease has not yet been positively identified, but there is nevertheless every reason for believing it to be a specific living organism. It develops and multiples within the human system, but probably undergoes some intermediate changes after leaving one body before it is able to communicate the disease to another. It is rarely carried by water but may be transported by the atmosphere for short distances, but its progress is interrupted by such slight barriers as walls, streams of water, and even a traveled highway. The usual transmission, however, is by fomites, such as hair, clothing, etc., by which it may be carried long distances. It succumbs to heat, if intense, and to freezing, though a frost, while checking its development and the consequent spread of the disease, may only render it dormant and it may cause new trouble upon the advent of warmer weather. Warmth and moisture are most favorable for its growth and yellow-fever epidemics.

As stated, it is not thought to be indigenous to Cuba or to the rest of the West Indies, and it is said that the disease has practically only been endemic in these islands during the last century. Some attribute its transportation thither to negro slaves brought from the west coast of Africa where it has been prevalent for a very long time. That it can be annihilated and a locality freed from its ravages is practically proven by our experience with cities in this country, such as New Orleans or Memphis, and especially by the example of Jamaica, which at one time was as unhealthful and lacking in sanitation as Cuba, but is now an island remarkable for its salubrity.

The death-rate from this disease in Cuban cities at present may appear remarkably low, but it must be remembered that most of the native population are non-susceptible to it, either through having once had it or by gradual accommodation, and that any others who are still susceptible are comparatively few in number in the various populations. Consequently, we may look for a number of cases and of deaths from this disease, if not an actual epidemic, among our unacclimated soldiers sent to garrison these cities, unless the greatest foresight and care for their protection be taken in every way. How this may be done will be pointed out in a subsequent paper.

[1] From "The Progress of the World," in the *American Monthly Review of Reviews*, for November.

MEDICAL PROGRESS.

Acute Inflammation of the Conjunctiva.—MORAX AND PETIT (*Rev. de Therapeut.*, November 15, 1898) have conducted a series of examinations and experiments during a period of four years in order to determine the nature of inflammations of the conjunctiva. They find that there are three forms of conjunctivitis which are common. One of these, an acute contagious trouble, is due to the bacillus of Weeks, and gives rise to various symptoms more or less grave. The simple cases may give rise in other individuals to grave ones. This conjunctivitis may be accompanied by phlyctenæ or by corneal or sclerotic complications. The best treatment is that by nitrate of silver. The diplobacillus causes a subacute conjunctivitis. This affection is also a contagious one. The authors cite many cases in support of this view. Sulphate of zinc is the best remedy. The third form of conjunctivitis is the gonorrheal. These three kinds of bacteria have the power of multiplying on the surface of the mucous membrane, and of inflaming it. Other bacteria (pneumococci and certain streptococci), though normally present upon mucous membrane without setting up inflammation, acquire this property under certain circum-

stances. Still other bacteria, such as the bacilli of diphtheria, staphylococci, and certain of the streptococci, can only multiply in mucous membrane after some accident has given them an entrance.

VALENCON says that these three varieties of inflammation of the conjunctiva are easily diagnosticated microscopically. He has found protargol most efficacious in the treatment of the first two forms. That due to the bacillus of Weeks is completely healed in five days by solutions of protargol, and the gonorrheal conjunctivitis is much improved and ultimately healed by the same remedy in five per cent. solution, dropped into the eyes several times a day. Conjunctivitis due to the diplococcus is at first apparently benefited by protargol, just as it is by nitrate of silver, but the improvement is only limited, and sulphate of zinc has to be resorted to to complete the cure. Protargol has all the antiseptic power of nitrate of silver and argentamin, and is less irritating and painful. It is therefore less serviceable for granular conjunctivitis than argentamin.

Gonorrheal Stricture of the Rectum.—BERNDT (*Centralblatt. f. Chir.*, December 3, 1898) makes a report upon eighteen strictures of the rectum from gonorrhea (four of them in males), and concludes that they arise independently of ulcers, from the penetration into the deeper parts of the gonorrheal inflammation. Five of the patients had a previous inflammation of Bartholin's gland; six of them had syphilis. In all of the patients except one, the stricture was within 1½ inches of the anus. The gonorrheal process extended, however, a variable distance above this. Hemorrhage, if it occurred, came from ulcers above the stricture. Three patients were discharged unimproved; five were benefited by incision and treatment with bougies; while upon six a radical operation was performed. One of these died upon the second day, of peritonitis, and the others recovered with more or less control of defecation. The operation which ended fatally was done without a preliminary colotomy, and since that time Mikulicz insists on the preliminary establishment of a fecal fistula in all cases.

THERAPEUTIC NOTES.

Treatment of Acne Simplex.—MCKINNEY (*Maryland Med. Journ.*, November 19, 1898) advocates at least three hot baths each week taken at night followed by cold sponging, and a cold sponge bath every morning for patients who are troubled with acne. A light nutritious diet, plenty of exercise, and bowels kept regular, with cascara if necessary, are points not to be forgotten in any case. Tonics, cod-liver oil, phosphates, etc., may be required by the particular patient. The remedy par excellence for acne simplex is calcium sulphid. The proper dose is ½ of a grain, twice daily, and this dose should be steadily increased until four such tablets are taken each day. If the taste is objected to, it may be disguised by sugar coating, or the drug may be given in capsules. In case of excessive gastric irritation, it may be desirable to begin treatment with $\frac{1}{10}$ or $\frac{1}{8}$ of a grain. In the acute stages of the trouble, arsenic does no good, and may do actual harm. At each visit it is well for the physician to spend a little time in gently squeezing out the larger comedones, and curetting the smaller ones with the comedone extractor. The pustules should be lanced at the base in a slanting direction, and the point of the needle or lancet, swung around in the abscess cavity, to break up its contents. If this be done, so that the pus can be squeezed out without disturbing the overlying crust, the resultant scar will be scarcely noticeable. An antiseptic is needed and can best be applied in the form of a soap containing sulphur or bichlorid of mercury, with which the face can be washed at night, so that the patient may avoid going into the air until the irritation caused by the antiseptic has passed away. If there is too much irritation from the use of the soap or other preparation, any of the semi-solid creams may be rubbed into the skin several times a day. Following are other good antiseptic preparations:

℞ Sulphur precip. . . . . ℥ i
Ether . . . . . ℥ ss
Alcohol . . . . . ℥ iiiss.
M. Sig. External use.

The lotion should at first be applied only at night, but after the skin becomes accustomed to it, it may be used advantageously several times a day. The sulphur often causes considerable irritation when first applied, but rarely so much as to cause its discontinuance.

If an ointment is desired, it may prescribed as follows:

℞ Sulphur precip. . . . . ℥ i
Ung. aquæ rosæ, Lanolin } aa . . . ℥ ss.
M. Sig. External use.

Another good combination is:

℞ Potassii sulphid, Zinci sulphat. } aa . . . . ℥ i
Aquæ . . . . q. s. ad. ℥ iv.
M. Sig. External use.

If the skin remains discolored after the papules and pustules have subsided, an ointment of tar and sulphur, or ichthyol and sulphur should be used, rubbing it into the skin for a half-hour each night. The use of very strong stimulants, as naphthol, resorcin, caustic potash, etc., is to be avoided, as their effect is often very injurious to the skin.

The Micro-organisms of Cystitis.—ALBARRAN, HALLE, AND LEGRAIN (*Gaz. heb. de Med. et de Chir.*, November 3, 1898) say that there is no specific micro-organism of cystitis. A great variety of microbes are found in the inflamed bladder. The bacterium coli is by far the most often found. It was present in 131 out of 304 cases examined by them. In 89 of these cases it was the only germ found. They found the pyogenic staphylococci in 70 cases of this same series. These microbes are the only ones which occur at all frequently. In the cystitis which follows gonorrhea, the gonococci are often at fault. This view is contrary to that previously held, which regarded such a cystitis as a secondary infection with other microbes.

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SATURDAY, JANUARY 7, 1899.

THE MEDICAL NEWS FOR 1899.

WE have already announced for the New Year a series of special articles on "The Garrisoning of Our Tropical Possessions," which will treat the important subjects of hygiene and sanitation not only for the troops but the inhabitants, and will keep all of our readers informed as to the practical progress that is being made in the solution of these important problems in our new possessions. As tropical medicine now takes on increased National interest for us we shall carefully follow from month to month the Mexican and South American medical societies and journals for advances in this line with the hope too of thus making Pan-American medicine more of a living issue now that our interests in medicine as well as other things give us so much more in common.

In general our special articles during the year will be made a feature and will consist of up-to-date reviews of subjects of practical interest to the general practitioner. Our original articles will maintain the same high standard as ever and in accordance with our established custom nothing will be admitted to the columns for any reason except its actual scientific worth and its practical value and interest to the busy medical man. Our abstracts from medical journals, our accounts of medical and therapeutic progress and of the proceedings of foreign medical societies will be made with the conscientious, painstaking care that has characterized them in the past and with even more completeness. As far as is consonant with the conveyance of a proper comprehension of the subject everything will be put as concisely as possible. We realize how little time the general practitioner has to give even to his medical periodicals so that we shall try to select for abstract and comment only what seems of special practical interest in current medical literature and so put it that its import can be unfailingly grasped and with as little expenditure of time as possible. Our motto is *non multa sed multum*.

FIRST AID ON RAILWAYS.

A RECENT accident on a French railway brings this subject again into public prominence, and in a very practical way. Surgeons were procured, it seems without much delay, but considerable time passed before proper surgical appliances, sterile dressings, bandages, antiseptic dusting-powders, solutions, and the like could be secured for the temporary dressing of the wounds. The result of the outcry on the part of the public because of the delay in the treatment of patients necessitated by the absence of these indispensable articles led to the issuing of an order by the Minister for Public Works requiring all railway-trains carrying passengers to be provided with a certain number of the requisites for prompt, surgical, first aid to the injured.

Dr. Estes, the well-known chief-surgeon of the Lehigh Valley Railroad, in a letter published in another column, commenting on a recent editorial utterance in the MEDICAL NEWS on the "First Aid on Railways," enforces by statistics from the service of that road how much good has been done in the last ten years by the carrying of "first-aid packets" on all trains. The subject is one of great practical interest for the traveling public now so large in America. It deserves serious attention and discussion and should lead to the adoption of similar and even more complete precautions by every railroad in the United States. Only medical men can understand all the significance of such preparations for inevitable accidents in the amount of suffering

that will be relieved and the number of lives that will be saved. All the weight of medical opinion, then, should be wielded to make railroad companies see that their own interests and those of the traveling public in this matter are one.

THE ROTUNDA HOSPITAL OF DUBLIN.

THE clinical report of the Dublin Rotunda Hospital for the year ending November 1, 1897, is of somewhat greater interest than usual on account of the description of the gynecological work of the year. The obstetric portion of the report contains details of the external and internal work of the hospital. It appears that among 2007 deliveries in the external division, there were but five deaths, none of them from sepsis. These fatalities were due, one each, to pneumonia, placenta previa, inversion of the uterus, pulmonary embolus, and cardiac disease respectively. There is an interesting narration of a case of rupture of the uterus, the patient recovering without operation. From the description it is evident that rupture of the puerperal uterus can take place without any of the alarming symptoms which are regarded as classical in the text-books and a diagnosis of which is reached only when, for some reason, the fingers are passed into the uterus.

There were two deaths in the internal maternity service out of 1448 cases, one from rupture of the uterus, the other from septic endometritis. This gives a total mortality for the year of 0.002, a remarkably low rate. Still the aseptic and antiseptic methods insisted upon in both divisions of the hospital's work and the fact that outside patients requiring operation are frequently removed to the hospital, contribute to this excellent showing.

Krauge's method of inducing premature labor—by the introduction of bougies, was tried three times, twice successfully. In the third case, no other method was attempted, but a bipolar version was performed. Inasmuch as this patient suffered from cardiac disease, the nature of which, however, is not stated, opinion may well differ as to the advisability of not attempting other means of inducing artificial labor before resorting to general anesthesia. We may well call into question, too, the recommendation that for accidental hemorrhages, in the face of severe bleeding and the absence of labor pains, the most reliable treatment is vaginal plugging and a tight abdominal binder. The good results obtained by this method at the Rotunda Hospital merely show that in some hands some procedures are satisfactory. The only case of eclampsia during the year was successfully treated by the hypodermatic injection of morphin, the patient delivering herself of a living child three days after admission. Ophthalmia neonatorum was rarely seen, the prophylactic instillation of a 1-per-cent. solution of nitrate of silver being still practised at the hospital.

Turning to the gynecological report, it is to be noted that in the clinical operating-room, the students, the wash-stands, and the sterilizers are separated from the operating-room proper by a partition of plate glass. Interesting data are given as to the preparation of materials, operators, and patients, which differ in no essential particulars from those in vogue in other clinics. Catgut is prepared by alcohol sterilization, the alcohol being slowly brought to the boiling-point while contained in a brass cylinder. Abdominal cases are drained only when there is a large area denuded of peritoneum or from which there is general oozing. A Mikulicz bag is then used for the purpose. Chloroform and ether are the anesthetics preferred, the former only being employed in obstetric work.

THE MIDWIFE QUESTION ONCE MORE.

EVERY one admits that something should be done to lesson the evils necessarily attendant on the midwife as we know her at present in New York City. The need of reform in the matter has been evident for many years. More than a quarter of a century ago, while Dr. Jacobi was president of the New York County Medical Society, the subject was warmly debated. Sporadically, ever since, attention has been called to the evils attendant upon the present system, and measures for reforming it have been suggested. Notwithstanding all this, we are practically in the same position to-day in the matter as we were twenty-five years ago. Let us hope that out of the insistent agitation of the last year or two some practical enduring reform will be evolved. The profession has long enough afforded an undignified spectacle to the world of agreement as to the existence of abuse, and utter disagreement as to the means of correction. We owe it to ourselves that this state of affairs shall continue no longer, and

whether able to accomplish our purpose with legislators or not, that we shall be at least agreed as to what is to be looked for in the matter of reform.

Existing abuses call for reform, but how this reform is to be brought about is where the division of opinion arises. The widwife is a relic of the time not so very long ago when obstetrics did not properly constitute a branch of medicine, and almost any woman who had had children herself was supposed to be capable of taking care of a labor case. It was not until the end of the last century that obstetric lectures in a medical course, in English at least, were delivered for the first time. The advance in obstetric science since then has been most remarkable, and it has all been in the direction of more and more skilled attendance at labor cases. Labor is normally a physiological process, and the doctrine of non-interference is to-day the keynote of obstetric practice. But in the exciting moments that occur in even a normal labor case it requires a thorough grounding in *principle* rather than any mere training by *precept* to keep the attendant in patient, truly scientific inaction.

The mortality of great obstetric clinics has been reduced to a small fraction of one per cent., but it is because obstetrics has become a science as well as an art. The condition of every organ is known as far as possible before labor, in order to provide for possible complications. The condition of heart and kidneys, especially, is looked to, and the often fatal surprises from these organs during parturition guarded against. The highest principles of modern bacteriology constitute the every-day working rule of the clinic. The care of the child has become a special science in itself, and pediatrics has greatly reduced the mortality of new-born children. It is evident that no half-educated, merely trained assistant can ever be expected to master the important details of these sciences, yet they must be practically applied in even normal labor cases; mistakes are serious and may be fatal.

We know that we have sketched an ideal, an ideal after which even doctors do not strive with satisfactory results; but it is the ideal that must be held up unless we would retrograde in the midst of the too faulty real. To such an ideal, obstetric science will sometimes raise its educated practitioners but it can never hope to do so with the class of people that wish to become midwives. To license midwives even after training them would be to put off for long years the application of the benefits of scientific obstetrics to that important class of the community, the many-childrened poor. It would be distinctly a mistake.

There remains the other question, What shall we do just now? Midwives, now practising, have certain vested rights; these, of course, must be respected. They sadly need regulation, however, so that Dr. Tuthill's proposed bill (see proceedings of the New York Medical League, page 29) would seem to be the practical solution of the question. Register midwives already in practice for two years but admit no new ones to registration, and so allow the midwife as a New York institution to disappear. Against this it will be argued that the midwife fills a want for the poor foreign population of the city. The poor we shall have always with us, but we do not look for the continued influx of foreigners into New York in the future that came in the past; while the rising generation born here become, such is the wonderful assimilative power of our institutions, more American than the Americans themselves.

For the poor who are able to pay but little there is the young doctor, so frequent at present, so ready to do such work for a modest fee, and liable, if we read the signs of the times aright, to be still less exacting in the future. For the poor who are unable to pay, organized charity, the signs of which are in the air all around us, will, in the next twenty years, have supplied abundant opportunities to secure scientific obstetric attendance. For the menial services that midwives now furnish in addition to heir duties proper as *sages-femmes*, district nurses on an endowed foundation will have been organized. In these provisions, not in an undignified compromise with half-educated and often characterless midwives, lies the solution of the question of obstetric attendance for the poor of great cities.

We cannot then see any reason for perpetuating the present midwife institution by ill-advised legislation that smacks too much of opportunism and sacrifices the future of obstetric science for the poor, for the questionable benefits of the legal regulation of present day evils. We do see the necessity for present regulation and future abolition of

the midwife, hence, we approve of Dr. Tuthill's proposed legislation, and call on the profession to give it their heartiest cooperation. While thus convinced ourselves, we are perfectly willing to have the other side of the question discussed in our columns, if done so briefly and pointedly.

CHICAGO'S CONTRIBUTION TO ANTITOXIN STATISTICS.

WE cannot refrain from calling particular attention to the diphtheria antitoxin statistics of the Health Department of Chicago, which we publish in another column this week. As may be seen from them, 1713 lives have been saved to the city of Chicago by the antitoxin treatment during the past twenty-six months, while the death-rate from diphtheria during November last, notwithstanding that ten per cent. of the cases were severe enough to require intubation, was only three per cent. Chicago's death-rate from diphtheria before the introduction of the antitoxin treatment was over thirty-five per cent.

If carefully collated statistics ever mean anything, surely here is something to make the most obstinate opponent of antitoxin at least hesitate before he endeavors longer to oppose what so many, after actual practical experience, are coming to regard as the greatest therapeutic blessing ever conferred on mankind. There is only one thing in the history of medicine to compare it with, that is Jenner's vaccination. There were invincible opponents of vaccination, and there are even now those who insist on not crediting it. We know in just what class the anti-vaccinationists belong, and it has now come to a pass in medical affairs that the persistent opponents of diphtheria antitoxin must be classed with them.

We sincerely compliment the Health Department of the City of Chicago on its brilliant results. We feel sure if the methods of the antitoxin departments of those European cities (there are but three, we believe) whose statistics are supposed to still throw doubt on the therapeutic value of antitoxin, were regulated as carefully as Chicago's seem to be, their results would be of a different nature. We cannot close without a word of praise for the succinct forceful way in which the statistics are brought out in order to make them most effective for the public; we commend this method to the health departments of other cities because of the value it possesses in the cause of antitoxin as an educational factor for the masses as well as the profession.

WELL-DIRECTED MUNIFICENCE.

WE reported last week the fact that Lord Iveagh, one of the Guinness family of Dublin, had given £250,000 ($1,250,000) to the Jenner Society of London for the promotion of scientific research tending to the prevention of disease. We cannot well imagine where a liberal generosity seeking an outlet for its philanthropic benevolence in something that would confer the greatest lasting good upon mankind, could find a more worthy object than this. The prevention of disease and its consequent suffering represents the acme of an enlightened human charity. It is to-day without doubt the best thing for the intending charitable to encourage and foster by their gifts and endowments.

Despite the vast wealth of our country and the number of extremely wealthy men it contains, gifts of this kind have not been as frequent as might have been expected. It is very probable that our wealthy classes do not as yet fully understand how much there lies behind the veil in medicine and how much might be done in this country, with the genius for research and discovery that our people have, to solve the great problems at present so insistent in practical and scientific medicine. When the realization of the great field for practical philanthropy that is lying open in this matter shall have come to our liberal wealthy classes—it is the beginning of a new year and we may be pardoned if the spirit of prophecy asserts itself—an era in medicine in America will begin that will eclipse anything medical history records.

Meantime it would seem to be the duty of members of the profession to make clear the possibilities there are for well-doing in this line to men who may have it in their power, by properly directed pecuniary aid, to anticipate the day when in medicine, as in everything else, the course of Empire shall take its way westward.

ECHOES AND NEWS.

A Monument to Charcot.—A monument to Charcot has been erected in front of the Salpétrière. M. Leygnes, Minister of Public Instruction, presided at the ceremony of unveiling.

Deaths of Soldiers at Manila.—The weekly death-list of the United States troops in the Philippines is as follows: Typhoid fever 2, smallpox 2, accident by drowning 1, by gunshot wound 1, ulcer of the stomach 1.

An Unassailable Position.—"No human pen or tongue taught me the science contained in this book, 'Science and Health,' and neither tongue nor pen can ever overthrow it."—*Mrs. Eddy*, the "mother" of the Christian Science Church.

"Medical Progress."—Messrs. Lea Brothers & Company have just announced for publication in March, 1899, the first volume of a new annual, *Medical Progress*, which will be issued in four handsome octavo, cloth-bound, and richly illustrated volumes of about 400 pages each. The several volumes will appear at intervals of three months.

Dr. Hamilton's Fatal Illness.—At the time of writing the obituary of Dr. John B. Hamilton, which appeared in the MEDICAL NEWS last week, it was impossible to secure definite information regarding the cause of his death. His final illness proved to be typhoid fever, and the immediate cause of death was perforation of the intestines.

A Seven-hundred-pound Patient.—Mrs. Hannah McKenzie, who is fifty-eight years old and who is said to weigh 700 pounds, was taken to Harlem Hospital. It required the services of nine men to carry her from the fourth floor of the house in which she lived down to the hospital ambulance. She has had a reputation as the fat lady in a dime museum.

Homeopathic Medical College Election.—At the annual meeting of the New York Homeopathic Medical College and Hospital of Sixtieth street and Eastern Boulevard, Roswell P. Flower was elected president; Giles E. Taintor, vice-president; George W. Clasty, secretary, and Richard M. Hoe, treasurer. A number of committeemen were also elected.

Professor Roentgen Declines.—It is now announced authoritatively that Professor Röntgen has refused to accept the call to the University of Leipzig to succeed Professor Wiederman, who will retire at the end of this semester. Professor Röntgen prefers to retain his present position, that of Professor of Physical Sciences at the University of Würzburg.

Her Sleep That of Death.—A young lady at Hebron, Ind., retired in apparently good health on the evening of Tuesday, the 20th ult. Next morning her relatives were unable to awaken her. Her physician pronounced her to be in a trance and expressed the belief she would soon awaken. On Sunday, five days later, it was discovered that she had been dead for some time.

A "Skirt-Slasher."—An incident worthy the attention of Lombroso occurred recently in a department-store of New York, which illustrates an odd phase of mental pathology. A man was arrested for surreptitiously cutting to pieces in a crowded store the valuable silk skirt worn by a customer. This action is akin to that of spitting tobacco juice or throwing ink upon skirts worn by women, which are more frequently committed than "skirt-slashing."

Christian Science Did Not Save.—The faith in Christian Science of the family of Judge J. W. Eller of Omaha, Neb., is being thoroughly tested. A gasoline stove exploded and burned several members of the family. Two "healers" were called in who prayed at length. When the victims were being told they were not in pain the flesh was dropping from their bodies. Mrs. Eller died, but the other sufferers declared that if they could not be saved through prayer it was not worth while to call for physicians.

Scientists at Columbia.—Hundreds of well-known scientists from all over the country were in this city to attend the meetings of the numerous societies held at Columbia University during the holidays. Seven societies connected with the American Society of Naturalists held their sessions either in the halls of the university or at the College of Physicians and Surgeons; geologists, mathematicians, and chemists also attended. There were anthropological, morphological, physiological, anatomical, and psycological sections.

Pelopathy.—A German clergyman has devised a system of faith-healing which has the merit of illustrating the utmost length to which human credulity will go. He tells those seeking for health that as they were originally made of dust the place to look for health is in mud. He orders them to roll in mud and to refrain as long as possible from rubbing off the coating thus acquired. "And do they do it? Of course they do—scores of them. And if the pelopathist can keep his face straight for a few months he is going to be a rich man."—*New York Times.*

Drunkenness and Insanity Increase.—The Bellevue Hospital authorities have been forced to notice during the holiday season an unusual increase in the number of alcoholic and insane patients. Both wards of this hospital are now crowded. An unusual number of boys have been found intoxicated. There are forty-three patients in the insane pavilion; fourteen persons supposedly insane were admitted in one day. As such a crowded condition of these wards has never been known before, there must be some other reason than the presence of the holiday season.

Smallpox on an Incoming Steamer.—On the arrival of the Hamburg-American-Line Steamship "Pretoria," at the New York quarantine last week, the health-officer learned that one of the passengers, a child three years old, had been ill with symptoms of smallpox. She had been kept isolated. The child and its mother and three other members of the family were sent to the Reception Hospital; nine steerage passengers who had occupied the same compartment were sent to Hoffman Island for observation; all the other steerage passengers were vaccinated; the vessel was disinfected and was then permitted to dock at Hoboken.

Death of Isaac Lewis Peet, LL.D.—Dr. Peet, the Emeritus Principal of the New York Institution for the Instruction of the Deaf and Dumb, devoted most of the 72 years of his life to the amelioration of the condition of those suffering from these infirmities. He was born at the American School for the Deaf at Hartford, Conn., where his father was an instructor. He occupied many positions and was a member of a number of societies and committees, in all of which he labored for the deaf and dumb. He was a prolific writer on all subjects relating to the deaf, their status and education. In 1886 his inaugural address as President of the Medico-Legal Society of New York City on "The Psychical Status and Criminal Responsibility of the Uneducated Deaf and Dumb," attracted much attention among teachers of the deaf, physicians, and lawyers.

Inert Vaccine Lymph in Chicago.—During the year 1897, according to the official report of the Department of Health of Chicago, 126,800 tubes of glycerinated lymph were distributed by the city to its public vaccinators. With those, 82,804 successful results were obtained, *i. e.*, an average of 1½ tubes were required for each success. During the first eleven months of the present year 75,000 tubes in round numbers have had to be used for a little more than 25,000 successful results, an average of nearly three tubes for each success. During the last four months to November inclusive 45,000 tubes have been used for only about 12,000 successes, an average of nearly 4 tubes for each successful vaccination or revaccination. The comment of the Health Department is: "Without further detail at this time it is evident from these gross figures that the producers of glycerinated vaccine have yet much to learn before they can be depended on to furnish a uniformly potent as well as pure lymph."

The New York Hospital and the State Board of Charities.—There is a controversy between the Society of the New York Hospital and the State Board of Charities. The former denies the latter's right to inspect the Hospital. The State Board takes the position that they are merely fulfilling a mandatory provision of the amended Constitution of the State of New York defining the duties of the Board. The Constitution says: "The Legislature shall provide for the State Board of Charities which shall *visit and inspect* all . . . institutions, whether State, county, or municipal, incorporated or not incorporated, which are of a charitable . . . eleemosynary, correctional, or reformatory character, excepting only such institutions, etc." The only exceptions are those institutions made subject to the visitation of the Lunacy and Prison Commissions. Upon this authority the Board expect to act unless the Hospital contends successfully that under its royal charter from George III. it is independent of this provision of the constitution.

Diphtheria Antitoxin in Chicago.—During the month of November, 1898, according to the reports of the Department of Public Health of Chicago, 168 cases of diphtheria were reported to the department and examined bacteriologically. Of these 98 were found to be true diphtheria caused by the Klebs-Löffler bacillus and were treated with antitoxin. Four patients remaining over from the preceding month were also under treatment. Of the 102 patients 97 are reported as having recovered, 2 remain under treatment, and 3 have died. A mortality, therefore, is shown of 3 per cent. in completed cases. Ten of the patients treated required intubation so that the diphtheria during the month was by no means of a mild form. Two of the 3 deaths were in intubation cases and all 3 of the fatal cases were first seen by the inspectors of the Department of Health later than the fourth day. This is certainly a remarkable showing for antitoxin and statistics so kept will soon furnish us with an answer to even the last of the obstinate doubters of serum-therapy. To this report for the month is appended the following details of the results obtained in Chicago since the original introduction of the antitoxin treatment of diphtheria by the Department of Health on October 5, 1895: During the succeeding twenty-six months to date the physicians of the department have examined 5739 cases of reported diphtheria. Of these 3956 were found to be true diphtheria and all but 134 (treated by family doctors) were treated by the department. Out of the 3822 patients thus treated 3763 recovered and 259 died, a mortality of 6.7 per cent. Before the introduction of antitoxin the mortality of diphtheria in Chicago was 35 per cent. "*At this rate there would have been 1337 deaths among the number actually attacked instead 259*"—a clear gain of *1100 lives* in a space of scarcely more than two years to say nothing of the amount of suffering of the patients and worry on the part of parents and friends saved by this latest addition to therapeutics. But that is not all. Where these children were there were also 3633 other children exposed to the infection and these were immunized, being given the preventive doses of antitoxin. Only 30 out of this number were subsequently attacked by the disease; they all had light attacks and promptly recovered. Of the 3600 exposed, in all probability at least one-half would have contracted the disease but for the immunization with antitoxin and, of this number, if the mortality of pre-antitoxin days obtained, there would have been 635 deaths or a total of 1972 deaths from diphtheria during the last 2 years and 2 months. In 26 months then there has been a saving to the city of Chicago, thanks to diphtheria antitoxin, of 1713 lives.

SPECIAL ARTICLE.

THE REPORT OF THE LOOMIS SANATORIUM FOR THE YEAR ENDING NOVEMBER 1, 1898.

THROUGH the courtesy of Dr. Stubbert, the Physician in Charge, we have received the annual report of the Loomis Sanatorium for Consumptives. In view of the recent attempt in England at some concerted action for the prevention of this disease, under the patronage of the Prince of Wales and Sir Wm. Broadbent, the present report has a particularly timely interest.

The primary objection to all such compilations is that they are invariably presented in a statistical form. Very few men are able to handle statistics; a little knowledge of the art, as of learning, is a dangerous thing. As was said some time ago in reviewing a statistical effort of a life-insurance medical director on the subject of "Phthisis:" "They don't even lie truthfully," and while we have not the slightest doubt that much good has been accomplished by the faithful and scientific work done at this particular sanatorium, we are compelled to question the conclusions which are drawn in the report before us.

Before proceeding to an analysis of this report we must take issue with the author for his use of the word "cured." It is an accepted fact that according to our present light it is practicably impossible to decide when the word "cured" should be applied to consumptives, especially in the case of females.

It is a common experience to meet patients who, after several years' residence in Colorado, have returned to the East, apparently cured, but who, after a short residence in New York, Philadelphia, Baltimore, or other Eastern cities, have again developed the disease and who have either died or been compelled to return to a high altitude.

This report gives the results of a year's work in the sanatorium, from which it seems that 204 patients had been treated during the year ending November 1, 1898, 78 of whom were there on November 1, 1897. The patients are divided into two classes: (1) Those who remained three months or less. (2) Those who remained longer. Of the total 204 the number described as "cured" is 28; of this number 10 are put down in class 1 and 18 in class 2, the latter being those who had been there over three months. In this connection the director says: "It is interesting to note that of those patients discharged after a residence of three months or less six per cent. were "cured," while among those who remained longer than three months eleven per cent. were cured. Here we must take issue with Dr. Stubbert, for while these cases had undoubtedly so improved that there was no longer any bacilli in the sputa or apparent lesion in their lungs and while they may have seemed in excellent health, the time was too short between the departure of any one of the twenty-eight and the making of this report to justify even the most hopeful in describing them as "cured." Again we must ask the director why he makes no distinction between female and male patients, a very important point it seems to us, for it is well known that phthisis is far more fatal in the female than the male, owing particularly to the fact that tendency to the tuberculosis is inherited through the mother and secondly to the more or less confined life of the woman, which tends to develop the disease. And this latter influence especially holds after her dismissal from a sanatorium even as "cured." We are, therefore, surprised that Dr. Stubbert, in making up his report, makes no distinction between male and female patients.

Of tne 204 patients in the sanatorium 67 were "discharged improved;" this is a very unsatisfactory statement and of very questionable application. We have in mind, for example, the case of a "Rough Rider" who on August the 19th had tubercular trouble at the apex of the left lung and bacilli in his sputum; after being mustered out September 16th he increased many pounds in weight, his cough stopped, and the bacilli disappeared from his sputum. Two months later (indeed up to December 1st he was in splendid health) he broke down and was sent West with all the symptoms of tubercular lung trouble. We could give many such instances in our practice and it is for this reason that we are inclined to criticise any report treating of this disease in which patients are described as "discharged improved," or "with the disease arrested." These criticisms apply both to class 1 and class 2 in this report, where the patients are described as "cured," "disease arrested," or "improved." We do not wish to seem hypercritical for we know great good has been done by the Loomis Sanatorium in combating this dread disease, we desire only to emphasize the fact that great care should be exercised before drawing final conclusions from combinations of what are ordinarily classed as statistics.

The remainder of this report is more useful and interesting. Dr. Stubbert states that there is far more improvement among the patients during the winter than the summer months and his experience has shown that his patients "brave with impunity the cold northwest winds" and that he has seen eighty patients gather at meals from their cottages day in and day out "without the least detrimental effects." In this connection he states that "the results obtained during the three cold seasons at this sanatorium seem to tend to revolutionize the popularly accepted ideas of the "injurious effects of wind and stormy weather in *incipient* cases of tuberculosis. We do not understand why he speaks of "the popularly accepted ideas," for even more severe conditions exist at Davos, which is to-day and has been for ten years, the place of all others to which cases, not only of incipient, but of well-developed phthisis have been sent by French, English, and Swiss experts on tuberculosis.

We cordially agree with Dr. Stubbert's conclusions that the patients should be encouraged to take constant exercise and be in the fresh air (under ordinary conditions) as long and as frequently as possible.

The balance of the report is taken up with the auxiliary treatment of special cases with various remedies. What interests us more especially is the experience with the antitubercular serum. He shows that twenty-seven per cent. of those treated lost the tubercle bacillus, although he does not state that they have been followed after their dismissal from the institution. It is but fair, however, to quote his statement: "I have lately examined between fifteen and twenty cases treated with serum and have not found one that redeveloped the disease; all have been enabled to remain in their homes and at their work and have been away from the sanatorium for periods varying from six months to a year and a half."

Of the effects of the United States Government serum of De Schweinitz he says: "I believe it to be the duty of the profession to continue the clinical administration along this line, since the three apparent effects noted from

the use of this serum have been: (1) "Reduction of temperature." (2) "Decrease of the bacilli." (3) "Possible immunity conferred upon patients after returning to their homes."

With reference to his use of antistreptococcic serum he says that it was naturally used in the hope that he could thereby do away with the streptococcus so that he would then be left to deal with the tubercular affection alone. With this end in view he employed in ten patients the Pasteur serum, selecting, of course, only such patients as showed the presence of the streptococci. Judging from the ten cases given it caused the disappearance of the streptococci for a time at least, and though its action was slow it apparently should leave the way open during that time for a more successful use of the De Schweinitz serum.

The report finally deals with forty cases of tubercular laryngitis; of which Dr. Stubbert says that "43 per cent. of the *ulcerated* cases have been discharged cured." This is certainly a very gratifying result; but a long experience with tubercular laryngitis in this country, in England, Germany, in St. Petersburg and Moscow compels us to believe that the word "cured" should not have been used.

The report shows that a number of other drugs were used without specially good results; among others the new South-American "Kalagua." It would seem from his experience that this has certain merits but we question whether the results claimed for it by the "Medical National Society of Columbia" are justified.

Finally Dr. Stubbert's experience with what he describes as the "pneumochemic" treatment corresponds entirely with our own experience with the pneumatic cabinet. It is of use only where there is bronchorrhea and excessive cough.

In any event this report is exceedingly interesting. The methods and practice at the Loomis Sanatorium mark a distinct advance in the treatment of tubercular disease and every encouragement should be given to Dr. Stubbert to continue his further scientific efforts toward the prevention and cure of this most fatal malady.

CORRESPONDENCE.

FIRST AID ON RAILWAYS.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—The interesting and valuable editorial which appeared in the December 3d issue of your journal should have the hearty thanks and support of all intelligent and earnest men who are connected with railway management, in either the surgical or purely executive departments.

There is no question that the Belgian and English railway systems are far ahead of ours in the matter of systematic methods for rendering first aid on their lines, and in this country the West and South have better systems, as a rule, than the roads in the East and North. Indeed, I know of one large system which enters New York City which has not even a surgeon connected with its lines. If public opinion were properly educated in this matter this could not be possible.

Railway surgeons have hitherto been regarded as rather an inferior class by the erudite members of our profession, and their efforts and accomplishments in the matter of hygiene and preparations for meeting medical and surgical emergencies along the lines of railways have either been unrecognized by the leading medical journals or have been allowed to go absolutely unsupported. It is a matter for mutual congratulation, therefore, that the MEDICAL NEWS has taken up this most important matter, and I trust it will continue to advocate the necessity of proper preparation for meeting surgical emergencies along the lines of railways until public opinion shall force every system to have a thoroughly equipped surgical department and adequate arrangements for giving modern and efficient first aid to the injured. I feel that I am entitled to speak emphatically and strongly concerning this matter as I have some strong data to support the proposition that the NEWS so well expresses, namely, "Every dictate of humanity as well as financial interest demands its enforcement."

In 1886, acting as chief surgeon for the Lehigh Valley Railway I introduced on the road a system of "accident cases" to be used for injured persons. The road at that time had its line well supplied with local surgeons but there was absolutely no provision for supplying simple aseptic dressings and means for controlling hemorrhage. In many cases the lack of these I found resulted in loss of life. Surgeons summoned hurriedly rarely carried with them the necessary appliances for controlling hemorrhage and very rarely had properly prepared materials for temporarily dressing an injury so that it might be properly protected and run no risk of further infection while the injured person was transported to a hospital or to his home. The soiled handkerchiefs and soiled "waste" from the locomotive, which the employees were accustomed to use in their efforts at first dressing simply made rapid recoveries after injuries impossible. These accident chests were intended to furnish simple appliances and aseptic dressings, with some antiseptic substances, to be used by the surgeon; they were put up in a easily portable and compact form and enclosed in a tin case.

A printed list of the contents of the tin case and a few simple directions for meeting some emergencies was pasted inside the lid of each chest. I also gave some personal instruction to station-masters on first aid to the injured. These cases were at first located at the stations along the line and with each wreck-train. It was found that they were so important a factor in caring for injured people that now not only the stations and wreck-trains have them but every passenger-train conductor must carry one in his "kit," and the cabooses of the freight trains and special coaches are also supplied with them.

Space will not permit me to go exhaustively into the results of the use of these cases—it will suffice to say that my statistics show a saving of a little more than *sixty per cent. of lives* since the use of these cases as compared with the old régime, and time of disability reduced one-

half. The saving of suffering no one can properly calculate; it must, however, be very great indeed.

Very truly yours,
W. L. Estes, M.D.

ST. LUKE'S HOSPITAL,
SO. BETHLEHEM, PA., December 31, 1898.

[The editor heartily commends this plan, as outlined by Dr. Estes, and regrets that he is unable, on account of its length, to publish the list of articles contained in the accident chest, as well as the "Rules for the Treatment of the Injured Immediately after the Accident." If Dr. Estes has a supply of these slips on hand he doubtless will be pleased to furnish copies to those who are particularly interested in this very important subject.]

SCHLEICH'S MIXTURE FOR GENERAL ANESTHESIA CONDEMNED.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—In the issue of the MEDICAL NEWS for November 12, 1898, I published an article, entitled "Clinical Observations in Regard to General Anesthesia by the Schleich Mixtures," which I summed up by saying that the Schleich mixtures are easily taken; that they may be used in all cases in which general anesthesia is not contraindicated; that anesthesia can be induced in a short time and kept up with small amounts of the fluid; that there is little accumulation of mucus, little vomiting, and hardly any cyanosis; that there is no bad effect on the kidneys; that the heart is not much influenced by it, although somewhat weakened; but that there is *some danger in regard to respiration;* and finally, that it affects the patients much less than ether or chloroform. I, therefore, recommended this new anesthetic for general use.

I take it to be my duty to inform the readers of the MEDICAL NEWS that I have been compelled to change my opinion in regard to the safety of these mixtures. In the article I stated that the real danger with Schleich's mixtures lies in their influence on the respiration, and I reported three cases in which there had been bad arrest of breathing, but in each case there was some complication which might be regarded as a mitigating circumstance. But now within twelve days I have had two similar occurrences in comparatively healthy women. One was a woman twenty-three years of age, in whom I extirpated Bartholin's glands on account of a fistulous tract remaining after an abscess. The abdominal muscles remained stiff, and when the anesthetist gave her more, she stopped breathing. She was immediately treated according to Sylvester's method, administration of oxygen, and pulling on the tongue. She recovered soon, but I then ordered ether to be given instead of Schleich's mixture.

The other was a forty-six-year-old woman, whom I operated on for fibroma uteri. All her other organs were healthy, but she became blue in the face and stopped breathing. In this case I saw again the excellent effect of the new method of revival invented by a Frenchman (Arcachon?). It consists simply in moving the tongue forward and backward. This interrupted pulling forward has appeared to me to have a more immediate effect in reviving the asphyxiated patient than any other remedy I am acquainted with, and it can, of course, easily be combined with other measures.

Thus having had five cases of dangerous respiration among little more than a hundred patients, to whom Schleich's mixture was given, I do not feel warranted in using it again in spite of all its excellent qualities, and I hereby beg to revoke the endorsement I have given it verbally and in print.

Yours truly,
HENRY J. GARRIGUES, M.D.

NEW YORK, December 24, 1898.

THE USE OF QUININ IN MALARIA.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—In the MEDICAL NEWS for December 17th, in your special article on "The Present Status of Opinion upon the Use of Quinin in Malaria," I find this statement: "Here and there some one with but small experience of malaria, or perhaps none, has expressed agreement with Koch's opinion. The voice of our own Southern medical men, of the English medical men in India, and of the medical men of Brazil and Italy, have been as a unit against Koch." Is not that statement too strong? The idea is not new; it is not Koch's.

Nearly all my professional life has been passed in a highly malarious country, and among the physicians there, who are not men of "small experience of malaria," the belief is quite common that quinin *does* cause hemoglobinuria. That statement of the writer should be somewhat modified. Again, "Another convincing consideration is that even in the midst of the genuine malarial hemoglobinuria the only remedy that can be depended on is quinin." Is that statement correct? Men who write books and most of the articles for medical journals live in cities where relatively few cases of malarial hemoglobinuria occur, and these scarcely of the worst type. They usually recommend quinin—but theoretically. Dr. N. S. Davis wrote on this subject, evidently though not from experience: "For accomplishing the two first objects large doses of quinin, opium, and astringents have been frequently used but with very little success." ("Practice of Medicine," page 203.) Then he quotes Dr. F. C. Fohs of Alabama, and Dr. G. B. Malone of Arkansas in support of a treatment in which quinin is not used. Drs. Fohs and Malone were evidently not men "with but small experience of malaria."

Where I had considerable experience with the disease, in the Arkansas River bottoms, the idea prevailed, accepted from the researches of Laveran, that the plasmodium malariæ was in the red blood-corpuscles, and when the plasmodium destroyed its host, it resulted, at the same time, in the destruction of the plasmodium itself, and if the patient could eliminate the disintegrated blood-corpuscles and plasmodium a cure would follow. All the persons I personally knew to die of the disease died of suppression of urine consequent upon a nephritis. Can one relieve a suppression of urine with quinin, given in any size dose or in any manner? Cases of hematuria, I grant you, have been cured with quinin, but hematuria is not

hemoglobinuria. That quinin may cause hemoglobinuria is possible; that it does, in these cases, is not proven, and not very probable. Personally, I do not believe that it does, but, like others, I do not know. Let Koch adduce his proof. In the meantime a proper spirit of inquiry is more conducive to the growth of medical knowledge than is dogmatism based upon our present imperfect knowledge of the disease. Very truly yours,

W. B. DEFFENBAUGH, M.D.

820 FRANCIS STREET,
ST. JOSEPH, MO., December 24, 1898.

INFIRMARY FOR STUDENTS AT YALE UNIVERSITY.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—When, in your issue of December 24th, you assert to give "Honor to whom honor is due" in the matter of an infirmary for sick students in connection with a university, and through your correspondent, Dr. Hoag of Indianapolis, assign the priority to Cornell as against Harvard, I am constrained to call your (and his) attention to the fact that the "Yale Infirmary" on Prospect Street, this city, has been open and in successful operation since December, 1892.

The funds to build the Infirmary were contributed almost entirely by ladies, the first considerable amount being raised by a public performance at the Hyperian Theater in this city of the Greek play "Antigone," in which the performers were all ladies of New Haven. The affair proved a great success, both artistically and financially, more than $2000 being realized for the fund, and the impulse thus given aroused enthusiasm in distant cities, and the wives of loyal Yalensian graduates, the mothers *in esse* and *in futuro*, interested themselves to raise additional funds, so that in a little more than a year a building costing with its equipment nearly $40,000 was finished and ready for occupancy.

The first patient was received on December 16, 1892. In the following year the property was formally turned over to and accepted by the corporation of the University, and the public announcement thereof made in the report of President Dwight for that year. The building accommodates comfortably about fifteen students, and there has been an average attendance since its opening of eight. It has been the object of much favorable criticism, especially by Harvard men. President Eliot and others, notably Drs. Clarence J. Blake, Henry P. Walcott, and George W. Fitz, have interested themselves to visit it, and there has been much correspondence with regard to its workings. The statement in your issue of December 10th, that the Harvard infirmary (yet to be built) "is the first erected at any of the large universities," certainly did not emanate from a Harvard man!

The Yale Infirmary comes from no single contribution or family, however praiseworthy such a memorial may be, but, like its magnificent gymnasium, it is the evidence of the unabating love and loyalty of its Alumni and their friends. Respectfully yours,

"C."

NEW HAVEN, CONN., December 26, 1898.

[If any university in the country antedates Yale in this work let it now speak or ——.—ED.]

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent]

A NEW WATER-SUPPLY SUGGESTED FOR PHILADELPHIA—HOSPITAL BEQUEST—PERSONAL NOTES—OBITUARY—THE CITY'S HEALTH FOR 1898—HEALTH STATISTICS.

PHILADELPHIA, January 3, 1899.

THE most sensible solution of the city's water problem yet presented is to be found in a communication from one of our Councilmen to Director of Public Works, Thompson. The writer suggests that the city lease or buy land surrounding some of the lakes and streams in Monroe County and that by means of an aqueduct the water be brought to the city without the necessity of filtration. Land can be purchased very cheaply in this region and the topography of the country seems peculiarly suited to the creation of large water-sheds, surpassing in fact the natural fitness of New York's supply.

This water-way is in the Pocono Mountains, a region to which the State Board of Health has recently called attention as a health-resort, and the water of the mountains is famous, among those familiar with it, for its purity. A few years ago there were gathered together at one of the summer hotels in this region a number of men who earnestly discussed the feasibility of conveying this magnificent and apparently inexhaustible supply of water not to Philadelphia but to New York and other cities along the route. The streams are unused except for trout-fishing carried on by some associations and flowing down long, deep valleys and, being from 1000 to 1500 feet above tide-level, they offer a truly, simple and magnificent opportunity to relieve the city from our death-dealing Schuylkill water.

By the will of Paul Jagode, $5000 is left in trust for the benefit of Quicko Thomas, "a poor and pitiabel epileptic," and upon the latter's death the money is to revert to the German Hospital for the maintenance of a free bed.

Director Riter, of the Department of Public Safety, has appointed Dr. John D. Devereaux an assistant medical inspector; Dr. Francis T. Stewart has been appointed chief resident of the Pennsylvania Hospital to succeed Dr. J. C. Starbuck, Dr. E. H. Wiggins becoming resident in the former's place.

At a meeting of the Board of Trustees of the Philadelphia Polyclinic and College for Graduates in Medicine held December 20th, Dr. Francis R. Packard was elected Dean of the College Department: Dr. Edward Martin resigned the Chair of Genito-urinary Surgery and the Chair was abolished; Dr. George E. de Schweinitz resigned the Chair of Diseases of the Eye, the Chair was abolished and an Emeritus Chair was created to which he was elected as a mark of appreciation of his services rendered the institution.

Dr. John Lindsay, Secretary of the Philadelphia County Medical Society, died at Riverton, New Jersey, on De-

cember 23d, of pulmonary tuberculosis. He was a graduate of Jefferson Medical College and Assistant Demonstrator of Anatomy at that institution.

Dr. John Sheets, a graduate of the University of Pennsylvania, died last week, aged forty. After studying abroad he made diseases of the throat a speciality and came to this city eighteen years ago, being at the time of his death a member of the Philadelphia County Medical Society and of the Medical Club of Philadelphia.

With the advent of a new year a retrospect of the city's health during the past year may be of some interest for it has been remarkable in some ways. The total number of deaths reported for the year was 23,790, a ratio of 19.18 per 1000 of population; 5036 were of children under one year of age, 2962 of children between one and five years old and 5498 occurred in people over sixty years of age. Notwithstanding the fact of our having had quite a severe epidemic of enteric fever and the fact that many sick soldiers were brought to this city, the the ratio of deaths per 1000 of population is next to the lowest of any year during the past ten, 1897 being the year in which the ratio was 18.72 as against 19.18 for 1898.

As to the present health of the city, the outlook is not especially cheerful, the number of deaths for the past week having reached 725 which is an increase over the week before of 75 and an increase for a similar period for 1897 of 264. Influenza continues to be an important factor in the number, 68 deaths being ascribed as directly due to "La Grippe," an increase of 39 over the week before and of 65 over the week of December 17th, surely a conclusive proof of the existence on no small score of a true epidemic.

The total number of deaths occurring in Philadelphia for the week ending December 31st, as reported at the Health Office, was 725, of which number 176 occurred in children under five years of age. The total number of new cases of contagious diseases was 230, reported as follows: diphtheria, 73 cases with 30 deaths; scarlet fever, 32 cases with 2 deaths; typhoid fever, 125 cases with 21 deaths.

SOCIETY PROCEEDINGS.

THE NEW YORK MEDICAL LEAGUE.—MANHATTAN SECTION.

Stated Meeting, Held Friday, December 16, 1898.

SUBJECT of the evening,

MIDWIVES AND THEIR ILLEGAL PRACTICES.

W. A. PURRINGTON, ESQ., read a paper on

SOME LEGAL ASPECTS OF THE SUBJECT.

Inasmuch as labor is a physiologic process, midwives in following their profession do not strictly come under the law regulating the treatment of disease. There is no legal definition of obstetrics, and it would be extremely difficult to formulate a satisfactory one, so that the midwife's practice of obstetrics has been simply an acknowledged fact. Certain statutes assume the existence of midwives; certain cities and counties have licensed them. This is all the legal status they possess. As to the question of formal recognition by law and their regulation and registration, it is not an easy one. There are too many statutes on the statute-books already, and the enforcement of such regulatory laws is very unsatisfactory. It often gives opportunity for the practice of blackmail on the part of inspectors. Doubtless, if a law were desired one could be formulated to cover the ground, but appeal to legislation has been too frequent in such matters, and every other means for the relief of existing abuses should be tried first.

Owing to his unavoidable absence because of illness MR. ELBRIDGE T. GERRY'S paper,

MIDWIVES AS ILLEGAL PRACTITIONERS,

was read for him. He told of the efforts of the Society for the Prevention of Cruelty to Children to break up certain midwife institutions in which abortion was evidently practised. The directresses of these places had taken the precaution, in a number of instances, to have their institutions legally incorporated, their nearest relatives constituting the board of trustees. This has made it a little more difficult to proceed against them. The society would welcome amendments to the present laws that would bring such institutions more directly under legal supervision, for such regulation is badly needed.

DR. THEO. K. TUTHILL read a paper, entitled

WAYS AND MEANS OF DEALING WITH THE ILLEGAL PRACTICES OF MIDWIVES.

He considers that all are agreed that the midwife is an evil. The practical regulation of the question, however, is bound up with many knotty points not easy to unravel. Midwives at present practising have certain vested rights which must be respected. The only way out of the difficulty seems to be to bring present midwives under legal surveillance by requiring registration, but to refuse to register any who have not been in practice for at least two years. With the gradual disappearance of the present midwives, and no additions to their ranks, the difficult problem would in course of time settle itself. This is, of course, a compromise for the present, but it will decrease the evils of the midwife system as now existing, and will lead to their ultimate extinction. It is such a compromise as had to be made when the question of the legal regulation of the practice of medicine came up. The vested rights of those already in practice, though without diplomas, had to be respected.

Dr. Tuthill then read the draft of a bill for the regulation of the midwife problem along these lines. Some of its special features are: No midwife is to be allowed to report a still-birth. The death-certificate for such cases must come through regular medical channels, as for all other deaths. Midwives are not allowed to continue in attendance at abnormal cases without calling in a physician. Any labor protracted beyond eight hours is to be considered as abnormal. The performance of any internal manipulation by a midwife, or the use or possession of any obstetrical instruments by one, is to be con-

sidered a misdemeanor and punishable as such. As stated, of course, the main feature of the bill is that no midwife is to be registered who has not been in practice two years at the time the bill becomes a law, and no registrations are to be allowed for any reason thereafter, thus providing for the gradual disappearance of the midwife.

DR. GARRIGUES was unable to be present, but communicated by letter the views he would have expressed in the discussion. He considers that with the number of doctors in this country the midwife is superfluous. If there should be any question of womanly reluctance to a man's attendance in a given case, women physicians are now at hand. The system of midwives inevitably has been a source of serious evils. They are criminal in many cases, known to be abortionists, a blot on our civilization. They are quacks, and under the circumstances it is scarcely possible to keep them from practising quackery. The delivery of a woman in our day is bound up with too much scientific medicine for us to hope to be able to train midwives properly, considering the class of women who wish to enter the calling. There is not alone the actual delivery, but the medical condition of the woman before labor, manipulations requiring skill and a knowledge of the importance of surgical bacteriology during labor, besides the highest principles of pediatrics during that first trying month of a child's existence. There is no excuse in poverty or modesty for the midwife in our day, for doctors and doctresses can be obtained. Let us, then, get rid of this crying evil.

DR. J. S. PETERSON thought that the midwives of the present day know as much as many of the doctors of thirty years ago, many of whom had had but six-months' medical teaching.

DR. GEORGE T. HARRISON related some characteristic anecdotes illustrating the ignorance of the midwife of physiology and anatomy. On one occasion, called in to a labor by a midwife, he delivered a still-born child. He soon saw that his efforts to resuscitate it would be vain, so he turned his attention to the mother. The midwife asked to be allowed to make a trial at restoring the child to life, and he gladly gave his permission. A few minutes later he noticed, to his surprise, that she was blowing with all her force into the umbilical cord. She told him her idea was to inflate the child's lungs, and so get it to breathe.

DR. M. B. FEENEY stated that in the down-town districts the midwives have considerable influence over the foreign voting population, and that any bill that seemed liable to make matters unpleasant for them would, he felt sure, be opposed by Assemblymen from certain districts, who would be won over by the political influence of these foreigners.

For Coryza.—

℞ Ext. hyoscyami . . . . gr. iii
Potassii iodi } aa . . gr. xxx
Potassi bicarbonatis }
Ext. glycyrrhizæ . . . gr. lxxx
Aq. anisi . . . . . ℥iv.

M. Sig. Two teaspoonful every four hours.

NEW YORK ACADEMY OF MEDICINE.—SECTION ON GENITO-URINARY DISEASES BEFORE THE ACADEMY.

Stated Meeting, Held Thursday, December 15, 1898.

DR. SAMUEL ALEXANDER read a paper, entitled

OBSERVATIONS UPON THE PATHOLOGICAL ANATOMY OF CHRONIC ENLARGEMENT OF THE PROSTATE, WITH SPECIAL REFERENCE TO THE CAUSES OF THE MUSCULAR INSUFFICIENCY OF THE BLADDER.

The paper was illustrated by a large number of lantern-slides in which were demonstrated various phases of prostatic enlargement macroscopically and microscopically. It was made clear that the original change in the hypertrophy of the prostate is an increase in the glandular elements, and that the fibrous condition so often seen in old cases is secondary and degenerative in character. The physiological purpose of the prostate as a sexual glandular organ seemed thus to be clearly brought out. It is not the enlargement alone causing mechanical obstruction that is the cause of the residual urine and other prostatic symptoms, but the fact that the enlargement by interferring with the insertion of the muscle of the trigone prevents it from properly performing its function of emptying the bladder. Hence it is, that at times even when there is no demonstrable enlargement of the prostate, when no prostatic tumor can be felt through the rectum and an ordinary catheter slips into the bladder easily, there may still be residual urine and other prostatic symptoms. In these cases there will usually be found an enlargement of accessory but distinct nodules of prostatic tissue situated just beneath the mucous membrane of the trigone. A number of perfect specimens of this condition, to which Dr. Alexander was one of the first to direct surgical attention, were shown. The symptoms occasioned by this condition have usually been attributed up to this time to a fibrous change in a normal-sized prostate.

The surgical treatment of this hitherto unstudied condition constitutes a very interesting problem for modern surgery, and one that no present method of surgical interference touches upon.

What the speaker especially insisted on is the manifold character of the pathologic changes (as may be seen from the series of microscopic sections and photographs of prostates) that underlie the condition known clinically under the simple name of hypertrophy of the prostate. Directly causative of the symptoms of the affection are especially the enlargement of accessory prostatic material existing in the trigone and the enlargement of the middle lobe, both of which interfere with the insertion of the muscle underlying the trigone, and so with its function of emptying the bladder.

DR. ABRAHAM JACOBI presented to the Library of the Academy, on behalf of Dr. Lothar Voss, formerly of New York but now of Germany, a copy of the original edition of Gasparo Aselli's work, "De Lactibus," a treatise on the lymph-vessels, and took occasion to say something of the book and its donor. The lymph-vessels had been seen by Hierophilus and others of the scientists of antiquity, but their purpose had been entirely misunder-

stood. They had been thought to be mainly carriers of air. Gasparo Aselli of Bologna, on July 23, 1623, during an anatomical demonstration, had first realized their true significance. He had found the valves in them so situated as to allow their contents to flow only in a different direction to that of the veins. His further study of the subject had led to the publication a year after his death of the book now presented to the Library of the Academy, and which was the first book ever printed that contained colored plates. Only two other copies of the first edition are known to exist, and only one of these is a perfect copy. This is in the library at Leipzig, while there is an imperfect copy at Breslau. Copies of the later editions are much less rare and valuable. The donor, Dr. Lothar Voss, was formerly a resident of New York and a member of the Academy. He returned to Germany and became a non-resident member of the Academy. That he did not lose his interest in it is proved by the present valuable gift. He is at present living in a little town in Westphalia from whence he sometimes makes pilgrimages to see the great surgical clinics and collect old books, for he is a great bibliophile. Through some error, either of the printer or of the Secretary of the Academy, Dr. Voss' name has been allowed to disappear from the list of Non-resident Fellows. Dr. Jacobi asked that every Fellow insert the name in his own list of the Members of the Academy, and that the secretary be instructed to see that no list of the Fellows be hereafter given out without Dr. Voss' name being included.

At the suggestion of the President, Dr. Janeway, a motion was carried to the effect that Dr. Jacobi should give expression to the vote of thanks which the Academy tendered to Dr. Voss for his valuable gift.

REVIEWS.

THE MEDICAL NEWS POCKET FORMULARY FOR 1899 —Containing sixteen hundred prescriptions representing the latest and most approved methods of administering remedial agents. By E. QUIN THORNTON, M.D., Demonstrator of Therapeutics, Pharmacy, and Materia Medica in the Jefferson Medical College, Philadelphia. In one wallet-shaped volume, strongly bound in leather, with pocket and pencil. Price $1.50, *net*. Philadelphia and New York: Lea Brothers & Co., 1899.

NO more appropriate words of introduction to this handy volume can be made use of by the present reviewer than those of its author, who says in the preface: "That there is a broad and legitimate field of usefulness for works of this character is self-evident, for even the best-informed practitioner may at times overlook an appropriate drug, and the young physician will perform his duty better, both to his patient and himself, if he has at hand the collective experience of the profession. No man of independent thought will be hindered in his development by having the best information placed conveniently at command."

These sentiments meet with our hearty approbation, and the more so because in this instance the author has placed this best information of which he speaks before us in a form which could not be improved upon. Diseases are arranged alphabetically throughout the book, and under each head the prescriptions cover not only the acute conditions, but also those of a chronic nature, as well as the ordinary complications. All doses are stated in both the apothecaries' and metric system. The work has been well and thoroughly done, and all recent remedies and combinations which have been proved of undoubted value in practice find a place.

The book is of convenient size, is very attractively printed and bound, and should find a place on the table or in the pocket of every practitioner who prides himself on being abreast of the times.

CONTRIBUTIONS TO ORTHOPEDIC SURGERY. By A. SIDNEY ROBERTS, M.D., Late Surgeon to the Philadelphia Hospital; Orthopedic Surgeon to the Out-Patient Department in the University Hospital, Etc. Privately printed. Philadelphia: 1898.

THIS is a "memorial volume" to the late Dr. A. Sidney Roberts by Dr. James K. Young, who ardently eulogizes the deceased in his introductory biographical sketch. This collection of Roberts' writings embraces the more commonplace orthopedic topics – club-foot, spondylitis, knock-knee, bow-legs, flat-foot, chronic osteitis of the knee-joint, and spinal orthropathies. Each and every one of these is handled in a masterly manner, and the article on club-foot is, possibly, the most complete one extant. All of this work is very instructive because it presents unbiased and exhaustive considerations of the subjects treated. By the publication of this collection much has been rescued from obscurity.

THE GOSPEL ACCORDING TO DARWIN. By WOODS HUTCHINSON, A.M., M.D. Chicago: The Open Court Publishing Company, 1898.

IT is needless to say that Dr. Hutchinson's book is interesting. Any one who has read other of his writings, or has heard him talk, can well realize that he has attempted to find in modern science a basis and a satisfaction for certain of the tendencies in man that constitute natural religion apart from anything revealed. The attempt has sometimes brought him into outspoken opposition with religious dogma in its strictest sense. The style is not, however, in any sense controversial, and the material is handled in a way to make it eminently suggestive. Dogmatists will find it heretical, materialists will think it not progressive enough or at least over-sentimental, while pure scientists, *i.e.*, men who cultivate science heedless, if possible, of any relations it may have with the non-material, will perhaps resent the application of their scientific discoveries to an order of truth to which they are not related. Meantime, to ordinary medical readers it will prove without doubt a well spring of serious thought on the questions in which religion and science touch each other.

Some of the chapters, as that on "The Value of Pain," containing under subheadings the discussion of such interesting subjects as "Pain Necessary to Life and Progress," "Value of Pain in Disease," "Discomfort as a Factor in Progress," "Discomfort the Mother of Science," are especially suggestive to the thinking medical man.

The chapter of excursion into sociological subjects, "The Duty and Glory of Reproduction and Economics of Prostitution," is extremely timely now that these questions have come to occupy so much of sincere scientific medical attention. The subheads, "Ignorance of Our Sexual Functions Immoral," and "Evil Effects of Limiting Size of Families," shows the thoroughly conservative yet eminently reasonable position the author takes on certain important living issues. Prostitution is handled from some points of view that are new and striking, especially for medical men, and some of the lines of thought are developments of opinions expressed by Dr. Hutchinson in the MEDICAL NEWS during the course of the past year.

Among the striking, because to all seeming utterly paradoxical, chapters is the one on "The Beauty of Death," in which the discussion of "Death as a Factor in Progress," "Dependence of Life on Death," and the "Painlessness of Death," redeems the precious character of the beautiful twin brother of sleep from the aspersions so usually cast upon it.

On the whole, the book is well worth the reading. In addition to conveying a lot of interesting scientific information pleasantly it will suggest fruitful lines of thought more precious than any merely new ideas.

A MANUAL OF VENEREAL DISEASES. By JAMES R. HAYDEN, M.D., Chief of Clinic and Instructor in Genito-Urinary and Venereal Diseases, College of Physicians and Surgeons, New York; Professor of Genito-Urinary and Venereal Diseases in the Medical Department of the University of Vermont, Etc. New (2d.) edition, revised and enlarged. New York and Philadelphia: Lea Brothers & Co., 1898.

THE new edition of Hayden's manual has been carefully revised, especially in the discussion of gonorrhea and chancroid. The chapters on gonorrhea and its complications present the subject in a very practical way, at the same time being correct in all scientific details. We believe that a mistake was made in neglecting to insert a statement as to the decolorization of the gonococci in the Gram procedure as that now seems to be firmly fixed as a means for differentiating the organism. There have been numerous additions under the head of gonorrhea; seminal vesiculitis, urethral cystitis, and cystitis are discussed, and a good description is given of the symptomatology and treatment of gonorrheal ophthalmia and gonorrheal rheumatism. Conservative treatment of gonorrhea is advised.

In the chapters on strictures, short articles have been added on the extravasation of urine and the care of urethral instruments. The methods of performing external urethrotomy are given in some detail. The articles on chancroid and syphilis have been brought up to date, although there are no striking changes. It is unusual to find in a book of even larger dimensions so complete a summary of the manifold phases of syphilitic infection as is here given.

The new manual will, undoubtedly, meet as great a success as its predecessor, especially because of its practical spirit.

THERAPEUTIC HINTS.

For Migraine, when associated with gout or rheumatism, the following pill is recommended:

℞	Quininæ valerianatis		gr. xv
	Ext. colchici	aa	gr. iv
	Ext. digitalis		
	Ext. aconiti		gr. ii.

M. Ft. pil. No. X. Sig: One pill at night after dinner.—*Hirtz.*

A Diaphoretic in Nephritis, when uremia is imminent:

℞	Pilocarpinæ hydrochloratis		gr. ⅙
	Mucilag. acaciæ		ʒ iii.

M. Sig. Three to six tablespoonfuls a day.

Although the dose is small, the drug thus given will stimulate perspiration while causing no unpleasant symptoms.—*Lemoine.*

To Anesthetize the Membrana Tympani.—

℞	Ac. carbolici pur.		
	Menthol	aa	gr. xv.
	Cocain hydrochlorat.		

M. Sig. External use.

BONAIN of Brest makes use of this mixture, which is a clear syrupy liquid, in the following manner: A small bit of absorbent cotton on a stylet is dipped in it and laid against the membrane, which is viewed through a speculum. A slight burning sensation is produced, but in two or three minutes the local anesthesia is complete, and an incision can be made painlessly. The mixture acts to some degree also as a caustic, as is evinced by a slight reddening of the membrane.

For Chronic Nephritis.—

℞	Lithii benzoat.	ʒ iiss
	Betol	gr. lxxx
	Sodii bicarb.	ʒ i.

M. Div. in chart No. XX. Sig. One powder two or three times a day between meals in cachets.

When the urine is diminished in quantity, dark in color, or possibly blood-stained, tannin should be prescribed as follows:

℞	Ac. tannici	aa	ʒ iiss.
	Pulv. cinchonæ		

M. Div. in Chart No. XX. Sig. One powder in a cachet twice a day at meal times.

This treatment is to be carried out for a considerable period. It is well to discontinue it during one week of each month.—*Lemoine.*

For Epilepsy.—

℞	Potassii iodi		ʒ i
	Potassii bromidi		ʒ ii
	Ammonii bromidi		ʒ iiss
	Potassii bicarbonatis		gr. xl
	Inf. calumbæ	q. s. ad.	ʒ vi.

M. Sig. One teaspoonful before each meal and three teaspoonfuls at bedtime, in a little water.—*Brown-Séquard.*

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ORIGINAL ARTICLES.

THE CLINICAL EFFECT OF THYROID EXTRACT UPON FIBROID TUMORS OF THE UTERUS.[1]

BY WM. M. POLK, M.D.,
OF NEW YORK.

IT is gratifying to know that among the many benefits attributed to thyroid extract, gynecology has not been overlooked. Amenorrhea, as a part of obesity, is already known to be amenable to it, and now fibroids are to be brought under its influence. The observers chiefly concerned in this endeavor are Jouin, Bell, and Stedman, Jouin being first and the most conclusive. His earlier paper appeared in 1895; the second, a year later, the observations covering twenty-five cases. Stedman, December 18, 1896, presents one undoubted case; while Bell, May 14, 1896, experimenting upon fibroids with an extract from the mammary gland, merely makes the assertion that fibroids are benefited by thyroid extract. It is evident, therefore, that the question is old enough and sufficiently well presented to warrant close inquiry on our part.

To arrive at more definite knowledge as to what the remedy really accomplishes for uterine fibroids, let me now give you a synopsis of results in ten cases which have come under my observation during the last fourteen months.

CASE I.—Patient, aged forty years; single. First intimation of the disease was menorrhagia. This began at thirty-four, and in spite of the use of electricity and ergot for three years to the fullest extent bearable (the ergot to the production of physiological effects three weeks out of each month; the electricity three times a week for six months each year excepting a week allowed for menstruation) the disease steadily progressed. In October, 1896, the tumor filled the anterior half of the pelvis and was specially marked by two subserous growths, one estimated at the size of the first phalanx of the index-finger and the other that of the thumb (allowing for the thickness of the abdominal walls), the former projecting from the fundus toward the left pubic spine, the latter from the region of the right cornua toward the right inguinal region resting over the brim of the pelvis near the corresponding pectineal eminence.

Prior to each menstruation, the mass as a whole was larger and the abdominal distention was decidedly increased. About once a month, generally midway between the menstrual periods, there came a marked accession of pain at which time the subserous projections above named were very sensitive. Naturally, the excessive menorrhagia caused persistent anemia with disarrangement of most of the digestive functions excepting the regularity of intestinal movement. This was daily sufficient. The condition of the skin, hair, and nails was impaired as might also have been expected. On November 4, 1896, the patient began the use of thyroid extract and continued it until November 9, 1897. An examination on the latter date showed a reduction in the uterine mass of about one-fourth, this being well assured in the two projections above described. The reduction is reflected in the diminution of the abdomen as a whole and is particularly well-marked, by contrast, just before menstruation, there being no longer increased distention at such times. The pain and tenderness have practically disappeared and the mass has softened. Menstruation has assumed proportions but little in excess of the normal standard. There has been slight increase in weight. The skin has assumed its former rosy tint, its softness, and its normal standard of secretion. New hair has sprung up and the old regained its luster and the same ratio of betterment is shown by the nails. The muscles, nervous energy, and strength have risen from decided depression to about their normal state, so that taken all in all the patient considers herself a well women, and conducts her life in accordance with this idea.

July 1, 1898, condition of general health as good as on November 9, 1897, but the tumor shows a slight increase above that observed just prior to the commencement of the thyroid treatment. The menstrual flow has been a little in excess of the normal since April. Thyroid has not been given since February 1st, owing to tachycardia. Thyroid treatment recommenced June 20th.

CASE II.—Patient, aged thirty years; unmarried. Observation began October 1, 1896. Menstruation excessive since the 19th of September. Had been treated with ergot and the curette. Was very anemic, with all that the condition implies. Under ether she was found to have an interstitial growth about as large as a pigeon's egg, located on the right side of the uterus and apparently extending between the folds of the broad ligament. The menstrual flow as profuse as ever. Was again curetted and put on ergot to the physiological effect. Third menstrual period after the curettage was as profuse as ever. Thyroid now administered, May 1, 1897. Examined October 15, 1897. Tumor less prominent and uterus, as a whole, somewhat smaller than on May 1st. Menstruation about normal. No longer an anemic, feels well. June 1, 1898, general improvement continues,

[1] Read in part before the Baltimore Obstetrical Society, December, 1897. Additional observations in December, 1898.

but growth is about as large as at first observation, and for the past three months, menstruation was in excess.

CASE III.—Patient, aged thirty-five years; married; two children. Two years ago menstruation began to be profuse and painful. Has emaciated slightly and is always conscious of fulness and weight in the pelvis, most marked just prior to menstruation. Examination shows a symmetrically enlarged uterus, size about equal to a four-months' pregnancy. The growth appeared to be wholly interstitial. This patient was subjected to treatment by ergot and electricity for four months, without apparent result. Was then put upon thyroid extract for four months. The result was a disappearance of pain and fulness, a practically normal menstruation, and the same marked general improvement noted in Case I. The tumor was softened and had apparently lessened in size. July 1, 1898, this improvement continues.

CASE IV.—Patient aged thirty-nine years; single. Gradual enlargement of abdomen for last nine years. Four years ago first realized that this enlargement meant a tumor. Being a busy, active woman, suppressed her discomfort until about a year ago when it became so severe as to be unbearable. Walking, turning in bed, and finally, even breathing was painful, and a sudden jar was most distressing. This pain was diffused more or less over the entire abdomen. She menstruated excessively eight days. The tumor was quite as large as a pregnant uterus at term; was sensitive and symmetrical. After five-months' use of thyroid extract she was one inch less in size of abdomen, quite comfortable, free from the former pain, menstruated five days naturally, and felt strong and well, all of which is borne out by the decided improvement in her general appearance. March 18, 1898, improvement is maintained.

CASES V. AND VI.—Patients have growths similar in many respects, although the first is forty-two years old, is married and the mother of one child eighteen years old. The second is single, aged thirty-four. Both have had menorrhagia for about six years; both have probably the myomatous form of growth, the tumor in each case being smooth, symmetrical, comparatively soft, and about as large as a four-months' pregnancy. Each has taken the remedy ten months, with betterment of general health and apparent arrest of growth, it being in each about the size found on first examination. In Case V. menstruation was arrested for three months, when it came on excessively and has returned each month, still in excess but less than before taking the remedy. She has suffered some loss of flesh. The other patient has found decided betterment of general health and energy but the menorrhagia is no better. I am now inclined to consider this case as one of submucous sessile growth. A recapitulation of the net result in these two cases is to the effect that the flow has not been materially lessened; the tumors have not grown; the general health has improved. July 1, 1898, the flow has been controlled in both. The tumors are smaller, the general health is excellent.

In Case VII. we scored a failure, as the medicine caused too much gastric disturbance. The patient, however, was timid, or rather had timid surroundings, and these proved too formidable, so the remedy was stopped at the end of two weeks.

CASE VIII. — Patient, aged thirty-eight years; married; two children, youngest eleven years old. First observation September 16, 1897. Uterus about size of the second month of pregnancy. It was hard, with here and there small interstitial nodules. Menstruated in excess, the flow lasting four days beyond the normal. (This had been the condition for years.) Thyroid commenced at above date. The next menstruation was nearly normal. General health showed improvement. The succeeding menstruation absent. Condition of general improvement still more marked. May 1, 1898, the amenorrhea had been shown to be due to pregnancy, this condition dating from the period of November, 1897. Confined of a living child August, 1898.

CASE IX.—Patient aged thirty-four; single. October 6, 1897. For two years had menstruated in excess, and had suffered from pain in the left iliac region which, upon examination, was found to be seated in a subperitoneal fibroid excrescence situated upon the left side of the uterus. The uterus was nodular, showing several nodules, the whole about the size of a three-months' pregnant uterus. After six-weeks' use of the remedy the pain and tenderness were lessened, and the flow was decreased at the last period. Up to May 1, 1898, this improvement had been maintained. The patient is able to follow her vocation as nurse without let or hindrance.

CASE X.—Patient, aged forty years; married. First observation April 10, 1897. Has two children, the youngest ten years old. For the last five years had had menorrhagia which had finally become so profuse as to impair her efficiency as a wife and housekeeper. Has a nodular, hard uterus, about equal in size to a pregnancy of four months. No special tenderness and but little local discomfort. This patient at the end of eight months gives the same favorable results noted in other cases: control of bleeding and improvement in general health. The tumor apparently is no larger than at the original observation. May 1, 1898: this same improvement maintained.

The net result in each case (Case VII. excepted) has been improvement, the greatest existing in those who took the treatment longest. Its manifestations were: (*a*) control of the menstrual flow; (*b*) arrest of the growth and, in some cases, diminution of the size of the tumor and apparently softening of it; (*c*) disappearance of pain and diminution of tenderness in the growth, and also of the sense of abdominal and pelvic distention, increase of muscular and nervous energy; (*d*) betterment of general nutrition, manifested at first by slight loss and then by return of flesh; improved state of the skin, hair, and nails, and in the substitution of a good color for the ap-

pearance of anemia. As might be inferred, the condition of the bowels was likewise improved although, as we shall see later, this was counterbalanced in some cases by gastric disturbances. It must not be supposed, however, that this was the sole drawback. There were others, but none was insurmountable —all belonged to the state now designated "thyroidism," but were manifested in its milder form because of the close watch kept upon the remedy. In every instance tachycardia was the most common drawback; next, restlessness and sleeplessness, when the drug was taken at bedtime; and lastly, indigestion.

It is evident then, that the remedy is efficacious, but when conceded a place, it must be compared with those accepted and now in use. To this end we, therefore, submit the following observations: Ergot, with or without digitalis, has failed to arrest menorrhagia in about fifty per cent. of our cases, and when successful it has been continued, as a rule, in the face of an impairment of digestion and bowel action, interference with the heart's action, and sometimes its use has been accompanied by a good deal of mental depression. Even though retarding growth for a time, it loses this action after a while. It aids in the expulsion of submucous fibroids and the conversion of interstitial into subperitoneal and submucous growths. The general health is apt to deteriorate much in the prolonged use of this drug. The suspension of the ergot has been followed usually by relapse into a state about as unfavorable as when it was commenced. Electricity has given little satisfaction, except when used as a cauterant to the mucous membrane of the uterus, and this action has appeared to be in no way superior to the use of the curette, and is more dangerous. Curettage involves anesthesia and invasion of the uterine cavity not once, but repeatedly in all cases. Ligation of the uterine arteries is an operation *sub judice*, our experience being against rather than in its favor. Removal of the ovaries is an operation which offers, perhaps, a better result than mere ligation of the uterine arteries, but it is an open question with many having a patient fitted for a laparotomy if total extirpation is not better. Myomectomy, either submucous or subperitoneal, and total extirpation are procedures which stand by themselves, facing no rivals in their appropriate fields, so no comparison with any medicinal or hygienic treatment can be instituted with them.

This, therefore, reduces the competitors of the thyroid treatment to the purely medicinal—such as ergot and digitalis—to electricity, and what may be called the palliative operations, such as curettage, ligation of the uterine arteries, and oöphorectomy. We recognize that it is premature to institute a comparison between this thyroid treatment and the so-called palliatives, yet we have ventured upon it for the sole reason that our individual experience has seemed to justify it. If, therefore, the thyroid treatment can be shown to possess the power to keep down the menorrhagia, metrorrhagia, and hydrorrhea of fibroids; if it can control their growth and annul the pain inherent to many of them it is superior to any medicinal treatment now in vogue; is better than electricity, curettage, or ligation of the uterine arteries; is preferable to oophorectomy, and in all smaller tumors it should be carefully employed before myomectomy or total ablation is resorted to, excepting, of course, cases in which the growth is merely submucous or in which malignant or septic changes are suspected. All such cases, in common with the larger growths, come within the pale of myomectomy or total ablation and, as already admitted, are outside the field of this comparison.

As to the possibility of an efficient combination of some one or more of these discredited agents or procedures with the thyroid treatment, it has appeared to me as probable that some cases might be best reached through some such combination, for instance, cases of excessive menorrhagia might do best with a preliminary destruction of the diseased mucous membrane with the curette, to be followed soon after by the thyroid treatment. Then again, in combination with ergot, the two to be given simultaneously or successively as the symptoms suggest or warrant. The preliminary use of the curette appeals to one in the class of cases mentioned, but cannot be suggested as a routine measure for the reason that we have found it unnecessary in two of our cases. The combination treatment with ergot has seemed beneficial when it is borne well, three patients having been so treated. After the suspension of the thyroid, these patients were placed on ergot and it appeared to us that the good effects of the thyroid were maintained the better. We had previously observed these patients about six months upon the thyroid alone, and subsequently made observations for the same period of this combined treatment. In two others we instituted similar observations, with the combination of thyroid and electricity, but cannot say that we are convinced as to its efficiency. We wish it to be understood that in using electricity we do not carry the pole beyond the cervical canal, our experience with its intra-uterine application, except under anesthesia, having shown that we were apt to set up an intra-uterine septic inflammation, an accident only too sure to occur in the absence of the kind of antiseptic technic which is necessary, and possible, only under anesthesia.

As yet we have not been able to determine which of the two classes of fibroids are most amenable to the thyroid treatment, but we incline to the belief that the nearer the growth approaches the type of the pure myoma, as distinct from the fibromyoma, the better the ultimate result with the treatment. The bleeding, however, is more quickly controlled in the fibromyomas. This much one would infer from the comparative bloodlessness of this type, and yet, while leaning toward favorable conclusions, we must not forget that the effect of the long-continued use of this remedy in these cases is undetermined. We know of the more acute effects, *viz.:* the headaches, tremors, gouty and rheumatic pains, general debility, persistent vomiting, and profuse diarrhea; the tachycardia with its dyspnea, perhaps, even fatal, we know of, but we do not know how easily these symptoms are controlled by regulating the dosage or stopping the remedy. But have we information of some possible general, degenerative change in consequence of prolonged use? For answer, we are forced to consult myxedemas, for they are the only cases which, so far, have been long exposed to the drug. It is true that here we have a disease clearly due to a thyrosis, and in giving the drug we merely return that which Nature requires, so it is fair to assume that nothing but good can come to myxedema from proper dosage with the thyroid. But so far as fibroids are concerned we must remain in uncertainty upon this point until the condition of the thyroid gland and secretion can be determined. Until such information is forthcoming we must get our encouragement from analogy. Both diseases are common to women and common at about the same period, both are characterized largely by an increase of the connective-tissue elements, and both are prone to uterine bleedings. This similarity is too general to be more than suggestive, particularly when it is offset by the dominating influence of the ovary whose removal generally determines the subsidence of fibro-uterine disease. But in the absence of any contraindication the analogy may be taken as a justification for the prolonged use of thyroid extract in this disease, with the proviso that we be alert, be keenly inquisitive as to the state of the circulatory, renal, nervous, and digestive systems, stopping or curtailing treatment as warnings arise.

It may not be out of place to suggest a minimum meat diet for these patients, and to advise rest—rest even in bed when the tachycardia is too persistent and troublesome—or a change of preparation, as some have more of this poisonous action than others, probably due to impurities, such as ptomains, leucomains, or the substitution now and then of iodothysine, using the two alternately.

This paper, down to the sentence just closed, was read before the Baltimore Obstetrical Society, December 5, 1897. Since that date we have had an opportunity to add to our experience further observations upon the cases cited above. The most important relates to the effects of the prolonged use of the drug. All of these patients have now been subjected to this treatment more than a year, which is a period of time sufficient to give valuable if not conclusive evidence. Every patient showed diminution of body weight at first, Case II. more markedly than the others, but in none was it excessive, and in all a point was soon reached at which the general health showed decided improvement with a return of some of this loss. One patient showed such an increase of weight for a time that we were doubtful whether this was purely normal or a condition of pseudomyxedema, such as was witnessed about the face in certain cases of insanity reported by Berkley in the *Johns Hopkins Hospital Bulletin*, July, 1897.

Further observations, however, proved that the appearance and the increase of weight was due to changes upon normal lines. No other patient showed any tendency to this psuedomyxedema. The tachycardia has been the most troublesome symptom of all but in none has it been excessive. Of late, we have been combining arsenic (after Bedord and Mabille) and the extract of thymus gland, suggested by Zaibisse, as a means of controlling the thyroidism, but too little time has elapsed to warrant any conclusive statements. Fowler's solution is used, three drops three times a day and the thymus extract just double in dosage of the thyroid, the three agents being given simultaneously. An important addition has been made, however, from observations touching the condition of the uterus and tumors in consequence of prolongation of the treatment. The shrinkage and apparent arrest of growth noted during the earlier treatment has not been maintained in two of the cases, I. and II. Both of these are fibroid myomas, and both show now after twenty-months' treatment an increase in the size of the growth. The increase may be approximately stated as equal to about one-fourth of the size present at the initiation of the treatment. The control of bleeding, however, and the improved health has been maintained; so that we see no reason to retract what was said in December last touching the relative value of this treatment. The occurrence of pregnancy in Case VIII. is suggestive and, taken in connection with the evident action of the remedy upon the endometrium, as witnessed in the control of the bleeding, it points to a beneficent action in cases of sterility due to abnormal states of this membrane. It is surely worth a trial in every

such case, no contraindication existing elsewhere, as in the heart, for instance. Upon the question of contraindication we can say no more than urge caution in all cases. Arterial fibrosis and cardiac and renal disease forbid its use, but even then we feel disposed to advise its use with extra precaution against the accidents of the remedy.

In is interesting to note that at the last meeting of the American Gynecological Society, Boston, May 24, 1898, Mosely, Mann, Duer, McLane, and Fry all reported favorably upon the action of the remedy in this disease. While, therefore, giving full credence to the observations of Cunningham, which tend to the conclusion that "thyroidism" is the product of decomposed animal matter in the thyroid mixtures and tablets in common use and not to the essential thyroid secretion itself, we must still believe that the remedy, in addition to the poisonous action, possesses a beneficent influence upon fibroid tumors. Completed with this question is the influence of the substance in delivering pregnancy and its action upon peri- and para-uterine exudates, as well as the betterment of the general health in certain women long depressed by the influence of certain uterine and ovarian disorders, the sequence of inflammation.

In conclusion, we venture to append the following remarkable report, not because of the result reported but as additional evidence upon the question of prolonged use of the remedy:

Recurrent Carcinoma of the Female Breast Entirely Disappearing under the Persistent Use of Thyroid Extract Continued for Eighteen Months. By Frederick Page, M.D., Edin.; M.R.C.S., Eng.; and William Bishop, M.B., B.S., Durh. — *Lancet*, May 28, 1898.

In December, 1895, Mr. Page was asked by a former house-surgeon of his, Dr. Bishop, to see with him a woman, aged sixty-one, who was suffering from carcinoma of the left breast of some six-months' duration. Her general health was very much impaired. The growth was the size of a hen's egg, in the upper part of the breast. Both axillary glands and their lymphatics were affected. On January 7, 1896, the breast was removed, together with the axillary glands and fat, the lymphatics, and the pectoral fascia. In April there was a recurrence of the disease in the neighborhood of the cicatrix, and on July 18th, several small nodules were removed. Both specimens were examined and pronounced to be carcinomatous. In September, 1896, at the suggestion of Dr. Bishop, thyroid extract was given, quite as a forlorn hope. At first three grains were taken daily, and the dose gradually increased until fifteen grains could be taken daily. During the eighteen months that the drug was administered, it was necessary to occasionally suspend treatment on account of its toxic effect. The patient is now quite well, and no trace of the disease discovered.

A Christian Scientist Suicide.—John A. Leverens, a Christian Scientist of Detroit, shot himself through the brain and breast. Fear of insanity, it is believed, caused him to commit the act.

DISLOCATION OF THE SEMILUNAR CARTILAGE.[1]

By JOHN B. WALKER, M.D.,
OF NEW YORK;
ASSISTANT-SURGEON TO THE NEW YORK CANCER HOSPITAL; ASSISTANT INSTRUCTOR IN OPERATIVE SURGERY IN COLUMBIA UNIVERSITY.

IN these days of frequent football games one hears more often of injuries to the knee-joint, and in looking over the literature of this subject and in studying the cases, one is somewhat reminded of the injuries of the abdomen, for the more one investigates, the larger the field is found for operation. Formerly the peritoneal cavity was opened only in extreme cases; now it is opened not only for definite operations but also for the purpose of exploration in certain cases which are difficult of diagnosis. The knee-joint does not furnish as large a field as the abdomen, but more and more success has followed with the increasing number of operations. This advance in both classes of cases has been due to an improved technic aided by better asepsis. Both the the peritoneum and the synovial membrane are richly supplied with blood-vessels, and while these are capable of rapid absorption if pathogenic bacteria are present, yet if these can be excluded, as they generally are, conditions are present which are most favorable for prompt repair. The study of injuries to the knee is a most interesting one but also a broad one, so I shall confine this paper merely to that class which will be illustrated by the cases to be narrated later and which was first described by Hey, in 1803, as internal derangements of the knee-joint.

In order to better understand the function of the knee-joint it may be well to consider the anatomy of the parts. The semilunar cartilages are two crescentic fibro-cartilaginous plates which are attached to the oute margins of the head of the tibia. They are wedge-shaped, concave above, flat below, their outer borders being thick, firm, and adherent to the tibia, while the inner edge is thin, concave and quite freely movable on the head of the tibia. Anteriorly their tips are firmly implanted in a depression before the spine of the tibia, while posteriorly they are attached behind the spine. Their union is strengthened anteriorly by the fibers of the transverse ligament, the external, thicker, more circular, and covering a larger area being more strongly attached than the internal, which is thinner, more semicircular, somewhat elongated, and so less firmly adherent to the tibia. This fact may account for its more frequent separation and dislocation. Their function is to diminish the shock and jar of excessive motion in walking, run-

[1] Read before the Harvard Medical Society of New York, November 26, 1898.

ning, etc., and also to act as a support and guard to the condyles of the femur by means of their upper concave surface, through which they deepen the concavity of the articulation, thus adapting the surface of the tibia to the shape of the femur in its various positions between complete extension and flexion. The semilunar fibrocartilages being loosely attached to the head of the tibia, move forward in extension and backward in flexion of the joint, and further, as the condyles rolling upon the tibia present successively to the condylar surfaces of that bone portions having different curvatures, each cartilage, like a movable wedge, is contracted round the condyle during flexion of the joint and expanded during extension.

At first the knee-joint resembles a hinge-joint, but closer observation indicates that the movement consists rather of a combination of rolling, gliding, and rotation. The tibia executes a rotary movement during flexion around an imaginary axis drawn transversely through its upper end. Thus in extreme extension, it is the anterior portion of the tibia which is in contact with the femur; in the semiflexed position, its middle; in complete flexion, its posterior edge. As the condyles glide over the tibia they also rotate slowly and, as this rotation is made under pressure, a great strain is brought to bear upon the semilunar cartilage, so much so in fact, that one might expect separation to occur more frequently.

König believes that it is due to some antecedent disease, as tuberculosis or osteochondritis desiccans, but it is maintained by others that although tuberculosis of the knee-joint is quite common, yet the separation of the cartilage is not found any more frequently in this disease than when it has not existed. However, in cases in which this disease has existed, it may be considered as a predisposing factor, for the ligaments may have become weakened and lax so that the joint is not as strongly supported. In such a case a strain which could be well sustained by a normal joint might, in this relaxed condition produce a rupture of the cartilage. Shaffer has reported a number of cases in which he found, "elongated ligamentum patellar together with a very considerable lateral mobility of the joint."

Undoubtedly the largest number of cases are due to trauma. Some few patients furnish a history of direct injury to the joint, the person having fallen and struck the knee directly, and as a result of this contusion inflammatory processes may have developed, which finally terminated in the separation of a portion of the cartilage. This class is small and the majority of cases have arisen without the association of great force. The injury is due to some sudden and almost involuntary movement when the muscles governing the joint are off their guard. The patient slips and in falling forward the knee is usually semiflexed; there is a rotatory movement of the leg outward, or if the leg be fixed, a rotation of the thigh inward. Thus a great strain is exerted, usually upon the internal cartilage. It sustains a certain amount of strain and then gives way; it may be separated merely along its middle portion from its attachment to the tibia, or it may be ruptured anywhere in its course; or it may be torn away from its anterior attachment to the tibia. Again it may be due to forcible movements, that is, bending the knee beyond its usual range of motion together with a twisting motion.

Barker has described the mechanism of the accident as follows: "The actual dislocation is due to the nipping of its edge when the limb is extending, which fixes it between the two bones and prevents it traveling forward while the capsule, being rendered tense by extension, is torn away from it more and more until there is nothing to prevent it slipping into the middle of the joint." It occurs most often in young, active males between the ages of twenty and forty years, rarely ever in females. The internal cartilage is the one usually affected.

Diagnosis.—This is oftentimes difficult and sometimes very uncertain and it will depend much upon whether the case is a recent, or an old one. If a good history can be obtained it will be of the greatest assistance. In a recent case one hears that the accident happened for the first time while walking or running; the foot slipped and the leg was twisted while in a semiflexed position. The pain is sudden and severe; generally the most sensitive area is over the internal cartilage, and sometimes when the cartilage is much displaced it may be felt to move underneath the area of this greatest pain. Some few have found a depression in this area, but this observation has been uncommon. If, however, the case is an old one, and this has been true in the majority of reported cases, one may obtain a history of several previous recurring attacks each one of which has been similar but a little more severe than the preceding one. The attacks will have been more painful and the period of recovery prolonged. It will be learned that the knee has repeatedly given way without much strain having been applied, and that the patient has lost confidence in its strength, and can only use the knee when it is steadied and supported by some form of apparatus. The joint will have become so much swollen and the tissues so thickened from the recurrent attacks of synovitis that the normal outline cannot be defined. It will be necessary to wait until the effusion has subsided before locating the displaced cartilage. This has

been the experience of Barker, MacCormac, and Bull. Generally the leg cannot be extended without considerable manipulation to first express the cartilage from between the condyles and the head of the tibia. This may also be true when one has to deal with a floating cartilage; in the later case, however, the floating cartilage may often be worked to the outer aspect of the tibia, where it can be felt to move underneath the finger. The floating cartilage has much the greater range of motion. Moreover in all the reported cases it has been the internal semilunar cartilage which has been separated or dislocated.

Treatment.—This may be considered under two heads, non-operative and operative. Occasionally one may he able to see the patient shortly after the accident has occurred for the first time. After the preliminary examination an attempt will be made to replace the dislocated cartilage, and this may be accomplished by flexing the leg as much as possible on the thigh, then rotating the tibia inward, if it is the internal cartilage; or outward, if it is the external cartilage that has been displaced, and next extending the leg quickly upon the thigh while pressing with the thumb where the cartilage is supposed to be out of place. A firm bandage is then carefully applied and a pad adjusted over the displaced part. The patient is confined to bed and an ice-cap placed over the knee. On the following day massage is begun and continued daily. Graham suggests massage as being useful for two purposes: first, considering that possibly this accident may have occurred because of a lax condition of the ligaments and muscles of the knee, which involve a previous synovitis, or from a generally relaxed condition, the massage would improve the condition; second, after an accident similar to this there is always a certain amount of effusion, and for the removal of this massage is especially indicated. He narrates several instances in which he had treated the patients successfully in this way, and states that they were able to go about after a couple of months without any apparatus or other artificial support. As a precautionary measure it is suggested that the patient walk with the toes turned inward when there has been trouble with the internal cartilage, and with them turned outward when the trouble has been with the external cartilage.

Shaffer has published reports of several interesting cases, perhaps of a little severer type, in which he has succeeded very well by the use of his so-called Campbell knee apparatus. Thus, it may be said that with both the massage and the apparatus, patients who suffer from the milder types may go about their business in comfort without an operation. It may be necessary to wear the apparatus for several months, or an indefinite time, and one can never be sure that if he leaves off the apparatus the trouble may not return. That this may be so has been admitted by both these writers.

In the majority of cases these methods will not succeed, and it will become necessary to open the joint. It is the belief of the writer that under suitable conditions this can be done without much danger. In regard to the operation two incisions may be considered: first (Barker's method), with the leg extended a curved incision is made from the inner border of the ligament of the patella to the anterior edge of the lateral ligament. The ends of the incision in all cases correspond to a line a little above the line of the head of the tibia. The convexity of the flap reaches down about an inch on the head of the latter. The periosteum is raised with the flap which contains the capsule besides, but the fibers are left intact in their relation to the periosteum. This is necessary for the subsequent strength of the joint. When this flap is raised the cartilaginous rim of the articular facet is generally to be seen divested of its covering of semilunar cartilage, which sometimes may be seen separated, or at other times it is twisted or curved up, its end being drawn to the interior of the joint. This incision certainly easily exposes the entire line of articulation. It has, however, the disadvantage of cutting the capsule transversely and thus weakening it so that some operators prefer to make a vertical incision, as recommended by Allingham and MacCormac. This should be three to four inches in length in the long axis of the leg and three quarters or so internal to the patella, its center corresponding to the line of the joint. In regard to the position of the limb, there is more room in the flexed position, though either that or the extended one may be adopted. If possible the limb should be maintained throughout in one position to prevent blood from getting into the cavity. The structures from the skin to the synovial membrane should be divided in turn until the division of the capsule exposes the synovial membrane clearly at the bottom of the wound. All the superficial structures should be divided throughout the whole length of the wound, and only after all bleeding-points have been secured should the synovial membrane be opened. The cartilage may now come into view. One may proceed now in one of two ways, either suture, or excise and remove the cartilage. In mild cases the cartilage may simply be separated from its attachment to the head of the tibia, but it still may remain attached by its two extremities. In such cases Barker has been very successful by his method of suture. Two or more sutures of silk are passed through the fibrous invest-

ment covering the tuberosity of the tibia, then through the cartilage, and tied. Silk should be preferred to gut as it is more reliable. If the cartilage be fully separated from either its anterior or posterior attachments, the coronary ligament torn through, and the cartilage curled up, it is better to excise it. When the knee is in a flexed position this is almost always the case.

Generally, when a patient comes to operation it is only after he has suffered from repeated, recurrent attacks, extending generally over some length of time, and in these cases one will find that the cartilage has not only become separated from the end of the tibia, but its anterior or forward end has been torn loose from its attachment, and it will be found twisted inward toward the middle of the joint, that is, the intercondyloid notch. In these cases one will only be able to pull the cartilage out into its former normal position by means of a hook, and with some considerable force. Even when replaced if it is released from the hook it will retract again into the middle of the joint. It would seem here that if the method of suture were used there would be considerable tension upon the sutures, and one could not but feel that perhaps the union might not be sufficiently firm between the separated portions so that should the knee be twisted the cartilage might again become dislocated, and for this reason it is suggested that the method of excision be employed for this class of cases. This procedure is recommended by Bull, MacCormac, and March. It is a more radical and a more certain method than that of suture, yet it might be open to the theoretical objection that the joint would not be as strong after the cartilage had been removed. It has been found by practical experience, however, that this weakening of the joint does not occur, and that the patients walk perfectly well. The cartilage should be cut away at the point where it is separated from the head of the tibia and the end bevelled off.

One has now to consider whether to irrigate the joint or not. In those cases in which there has not been much effusion, in which the joint has not been subjected to much manipulation during the operation, in which extensive dissection has not caused much hemorrhage into the joint, and in which no previous disease has existed, it is probably unnecessary to irrigate the joint. If, on the contrary, these conditions exist, it may be well to wash out the joint with normal salt solution. When there has been no irrigation the capsule can be entirely closed without drainage. The wound must be closed with great care, the synovial membrane, the capsule, and the exterior structures being sutured with fine catgut. The sutures should not be placed too close together, thus preventing the easy escape of fluid should effusion arise. A plaster-of-Paris bandage is next applied. At the end of seven days, when primary union has occurred, the dressing is removed and passive motion and massage is begun. In order to protect the joint and give the patient a feeling of security an apparatus may be worn and the patient allowed to move about. The prognosis is good, for, after a careful study of the literature covering the past five years, including about one hundred cases, there has not been found a reported case of death following these operations.

Through the courtesy of Dr. W. T. Bull I am able to report the following case in which I assisted at the operation:

Case I.—Male, aged twenty-one years. In the fall of 1892, while playing football he slipped, fell, and twisted his right knee. He felt something snap and give away. This was followed by an acute attack of synovitis, which confined him to bed about four weeks. One year later, while running he fell and twisted his knee again, and had considerable pain over the inner side of the joint. He could extend the leg only with difficulty and with much pain, and was confined to bed five weeks. He went about on crutches for three weeks, and later was obliged to wear a rubber knee-cap. Eight months later his knee gave away, he fell, and another attack of synovitis followed. Eighteen months later he again fell and twisted his knee, and was unable to extend his leg until after it had been manipulated. The physician in charge diagnosed a floating cartilage, an incision under cocain was made, but no cartilage was found. An apparatus was then applied, which immobilized his knee for several weeks so as to permit him to walk about. Six months later his last attack occurred, which was much more severe than any of the previous ones. After the effusion had subsided, it was possible at times to feel the dislocated cartilage at the inner side of the joint at the level of the articulation.

On February 15, 1897, he was operated upon under ether. A vertical incision four inches long was made on the inner side of the knee-joint, in front of the lateral ligament, midway between it and the inner border of the patella. The structures were carefully divided so that there was very little bleeding. On opening the capsule the internal semilunar cartilage was found to be absent from its normal position but it was easily recognized. Its tip had been torn away from its anterior insertion, and it was separated from its attachment to the head of the tibia for a distance of about two inches backward. Its tip was curled up and projected inward toward the center of the joint. This was drawn outward by means of a tenaculum and was cut away from the tibia at the point where the separation began, the stump being bevelled. The capsule was closed with catgut and the outer structures with silk, a small gauze drain leading down to the joint. A large sterile dressing, strengthened by a plaster-of-Paris

splint, was finally applied. The gauze drain was withdrawn at the end of seventy-two hours. Primary union resulted, passive motion and massage were begun within three weeks, and the patient walked at the end of four weeks. Eighteen months have elapsed since the operation without the recurrence of any further trouble, and the function of the joint is good. He went to the front in the recent war, and has been perfectly satisfied with the result of the operation.

As a matter of interest and for the purpose of further increasing the statistics, I add the following reports of cases:

CASE II.—By Dr. W. T. Bull. Male, thirty-five years of age. One year previously he slipped and twisted his left knee and was unable to extend the leg. Synovitis developed and his knee was confined in plaster of Paris for three months. During the previous three months, his knee-joint had been "locked" several times; it had been very painful, and had incapacitated him from his work. Moderate effusion was present, and an area of tenderness existed over the inner side of the joint. A transverse incision was made to expose the joint. The internal semilunar cartilage was seen to be separated and dislocated inward. It was excised, and the structures sutured as in the preceding case. Drainage was also used. The recovery was uneventful. He walked on the twenty-first day and at the end of a year was in excellent condition.

CASE III.—By Dr. W. T. Bull. Male, aged forty years. Four years previously he fell and struck on his left knee. Ever since he had had more or less pain on the inner side of the joint. It had been swollen and at times had been "locked," so that he had a constant feeling of insecurity. A vertical incision was made at the inner side of the joint, exposing the internal cartilage. It was separated and dislocated. It was excised and the joint drained as in the preceding cases. He walked with crutches on the twentieth day, and a year later was still in good condition.

CASE IV.—By Dr. V. P. Gibney. Male, aged nineteen years. Four years before he slipped and fell, twisting his left knee. Synovitis developed and left his knee somewhat weakened. He had had several recurrent attacks so that his knee remained more or less tender, especially over the inner side of the joint. Several months before he discovered a movable body, which slipped under his finger. A vertical incision was made, which revealed a dislocated semilunar cartilage. This was excised and the joint sutured without drainage. A plaster-of-Paris bandage was applied. Recovery was uneventful, and at the end of four weeks he walked without lameness.

CASE V.—By Dr. V. P. Gibney. Male, twenty-one years of age. Five years before, while playing tennis, he slipped and fell. There was considerable pain over the inner side of the right knee-joint. Synovitis developed. This recurred several times, leaving the knee weaker and more insecure. Several times he felt a movable body at the inner side of the knee. A vertical incision was made, which showed a portion of the right semilunar cartilage to be separated and dislocated. The end, which had become pedunculated, was excised, and the incision was closed without drainage. Recovery was uneventful.

CASE VI.—By Dr. V. P. Gibney. Male, twenty-two years old. During the previous three years he had had recurrent attacks of slipping, falling, and twisting of his right knee. Synovitis followed each time, so that when seen he suffered from subacute synovitis. A vertical incision exposed the joint, showing the right internal semilunar cartilage to be separated and its tip displaced inward. This was excised and the joint closed without drainage. Recovery was uneventful. One year later the patient reported his condition as being excellent.

DISCUSSION.

DR. BREWER said that the members of the society should be extremely grateful to Dr. Walker for his very practical exposition of this interesting question of loose cartilages in the knee-joint. He himself knows two or three patients who are almost helpless from this affection, one a young woman, who spends from one to three months in bed a couple of times a year or oftener with acute synovitis from this cause and whose life is made sadly miserable. Operation is usually not advised in these cases because it is not known that opinion is yet definitely settled as to the definite value of surgical interference or as to its justifiability except in extreme circumstances. He thinks that in the etiology of loose and displaced cartilages Dr. Shaffer's explanation adds an important element to previous theories. The cases in which displacement occurs are wobbly joints, in which all the ligamentous attachments around the joint are looser than normal. He has found this to be true in his own cases and has even been able to demonstrate by actual measurement that the patellar ligament was larger than normal.

He has seen some surprising spontaneous recoveries. In one case after three severe attacks each more bothersome than the preceding one he advised operation, but it was refused. Afterward there were three milder attacks all in the same leg, then a slight attack followed by a severer one in the other leg; yet with care and a sedentary occupation no further attacks occurred. It is now some three years since the last one and the patient made the campaign in Cuba with the Rough Riders during the late war and has returned absolutely without having had a symptom of knee-joint trouble while soldiering.

DR. BROWN said that his experience was mainly personal. Twice in football practice he has had the symptoms develop that are usually thought to indicate displaced cartilages in the knee-joint and yet has recovered perfectly and though that is now some time ago has had no bother since. He knows of a number of cases where the diagnosis of displaced cartilage was made and yet complete recovery has followed rest. He supposes, however, that these are the milder cases.

DR. FISKE thinks it scarcely justifiable to compare the knee-joint to the abdominal cavity, or to

suggest that an exploratory incision of the knee-joint should be made with practically as much freedom as an exploratory laparotomy. The lymphatic supply of the peritoneum is better, its vitality higher and it is better able to deal with infection. We can at present open the large joints with much more safety than we could some years ago but there must be a very serious reason for there is still great danger in the procedure. For loose cartilage, for instance, operation is indicated only after a thorough trial of conservative methods has failed. He thinks that Allingham's plan of suturing all the different planes of tissue above the joint as detailed by Dr. Walker is a good one. In the extraction of floating cartilage, however, when the object can be cut directly down upon or when it can be coaxed into a favorable position for removal, the small incision necessary may be simply closed with a piece of rubber tissue. He has seen this plan give excellent results in Dr. Abbe's hands in a number of cases.

DR. WILCOX said that from his personal experience he thinks he can say that a dislocation of the semilunar cartilages must not be frequent. On four different occasions he has had extremely bad wrenches of his knee. Considerable acute synovitis has always developed, but he has never had any subsequent symptoms pointing to loose or displaced cartilages.

DR. WALKER, in conclusion, said that not every case is suitable for operation but only the inveterate ones in which other methods have been tried and have failed. Certain patients seem to get entirely well under rest and apparatus. These are the ones in whom the middle of the cartilage is detached but not the ends. Reattachment takes place then rather readily under favorable conditions. It is true, doubtless, that the synovial membrane will not stand manipulation and infection quite so well as the peritoneum, but the fact remains that it will stand them much better than has been thought. In any operation for the condition there is always a certain element of exploration for a definite positive diagnosis before operation could be made with certainty but very rarely. In answer to the question if there is usually not a depression over the spot where the cartilage should be but is not, Dr. Walker said that usually in these patients when they come for treatment there is an effusion into the joint that obliterates the depression that would otherwise exist. In patients who come after the acute stage had passed there have usually been several attacks and so a chronic synovitis with a certain amount of persistent effusion existed to obscure the valuable symptom of depression.

In reply to a question as to the frequency of displaced cartilages he considered that his experience and knowledge of the literature on the subject enabled him to say positively that the affection is not frequent and it is even probable that some cases diagnosed as displaced semilunar cartilages are really only cases of acute traumatic synovitis.

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FURUNCULOSIS; ITS ETIOLOGY AND TREATMENT.

BY H. H. STONER, M.D.,
OF ROCK RAPIDS, IOWA.

A SPECIAL notice of an apparently so insignificant and common affection as boils seems to be beneath the dignity of medical writers in general if the dearth of literature upon the subject may be taken as a criterion. The great variety of remedies that has been hurled against this ignoble visitant is proof to my mind that its etiology has not been as well understood as it might have been, hence, the profession is not agreed as to its best mode of treatment. While each remedy may meet with a certain amount of success, none of them will be found to be a specific. Among the many remedies employed may be mentioned poultices, arnica, asaprol, calcium sulphid, camphor, carbolic acid, colchicum, hypophospites, menthol, pyoctanin, sodium phosphate, turpentine, bichlorid of mercury, yeast, and a host of others.

Let us inquire into the cause of this provoking disorder and see if we cannot therefrom arrive at a more rational mode of treatment. I believe all will agree that suppuration is directly due to the presence of pus-producing organisms; that being the case it must necessarily follow that furuncles are caused by the same agency. The ubiquitous staphylococcus pyogenes aureus is the responsible organism in the great majority of cases, although the staphylococcus pyogenes albus and citreus may sometimes be found to be the cause.

Boils are not due to an internal dyscrasia. They are purely a local affection. It is true that in some conditions of disordered metabolism, such as diabetes, in which the resisting power of the tissues is diminished, the pyogenic cocci flourish in the form of furuncles, with but feeble opposition to their development. Barring such circumstances the condition of the system at large has nothing whatever to do with the development of this form of phlegmon. The germs gain access to the deeper parts of the skin through the avenues of the hair-shafts and sweat-glands. In the great majority of instances the hair-shafts furnish the most accessible route for their entrance, as may be demonstrated by observing in its incipiency the presence of a hair projecting from the apex of the inflamed and tender little elevation. The germs after gaining entrance to a hair-follicle rapidly multiply and the contiguous blood-vessels become engorged and finally occluded, with the result that the tissues in the immediate neighborhood become necrotic. The classical symptoms of inflam-

mation continue until the pus formed is evacuated, either by natural or artificial means, when if the necrosed portion has not already been liquefied it comes away in a mass. This is the core which is so often seen in this affection. The pus which escapes from the abscess is laden with micrococci and in this stage, at their height of activity, they are in their most virulent form and will readily inoculate any follicle with which they are allowed to come in contact. This is the time when the surgeon will be able to do most for his patient. I am convinced that there is no treatment that will abort a boil when it has once gotten thoroughly under way. I am certain, however, that a successive crop of boils can be prevented by very simple means. Furunculosis owes its etiology, as above intimated, to infection of neighboring follicles from the pus-producing organisms present in a pre-existing furuncle. The subject of this distressing ailment is prone to handle and fuss with it, with the result that the germs become deposited upon his fingers and beneath his nails. By this means they are readily conveyed to remote parts of the body by the act of scratching. Probably the most fruitful source of infection is through contamination of the clothing worn by the patient. An individual suffering from a small furuncle which scarcely causes enough uneasiness to attract his attention allows it to point and break without any care upon his part. The consequence is the pus-cocci are deposited upon his undergarments and a number of local points of infection develop upon the body which has come in contact with the infected clothing. The bedclothing may be in like manner contaminated, producing infection in distant parts of the body; or if the abscess contains a greater amount of pus at the time when it breaks the pus may run in a stream for a certain distance along the skin infecting every follicle in its path. Such is the history of small furuncles. Larger ones which demand the attention of the patient fare but little better. They are usually poulticed, with the result that the heat and moisture enhance the vitality and activity of the pyogenic organisms, and a greater amount of necrotic tissue is produced, so that the temporary alleviation of the pain due to poulticing is more than counterbalanced by the evil it produces. In this form the abscess is usually treated by covering it with a light dressing, but no care is taken to prevent the disease-producing germs from coming in contact with the contiguous surfaces of the skin, hence, several abscesses of varying degrees of severity are liable to develop in close proximity.

I mention the theory of the transmission of pyogenic germs to distant parts through the medium of the lymphatics only to dismiss it, as I am satisfied from observation that an overwhelming majority of cases may be traced to the source above described. If the theory I have outlined is based upon sound principles, and I believe every careful observer will agree with me that it is, the rational treatment of furunculosis should consist in confining the germs within their original abode. How thoroughly this precaution may be carried out will depend much upon the care and intelligence of the patient, and much upon the location of the furuncle. Patients suffering from this disease are seldom confined to bed and are more or less active. There is frequently found certain locations upon the body where it is well nigh impossible to so adjust a dressing as to preclude the possibility of the surrounding parts being constantly bathed with the exuding pus. Here the local application of antiseptics stands first and foremost among measures intended to frustrate the infection of contiguous tissues. Bichlorid of mercury in strong solution, 1 to 500, far transcends any other antiseptic. It should be mopped upon the unbroken skin for some distance about the abscess. The limits of the area to be so bathed will depend upon the amount of pus escaping and the facility with which it can be absorbed by the dressing and confined to the immediate region of the abscess. Such an application should be made twice each day. The abscess cavity should be carefully irrigated with a weak bichlorid solution. A piece of soft lint should be moistened with the solution, 1 to 2000, and laid upon it, over which should be placed a sufficient amount of absorbent cotton to absorb the discharge. Over this, if possible, should be applied a well-fitting bandage. If the patient himself attends to the dressing he should be taught to carefully disinfect his hands afterward. By following out this line of treatment the condition of so-called furunculosis will disappear with the healing of the original points of infection.

As to the abortive treatment of an individual abscess I have stated above that we are not in possession of any remedy capable of exerting such a happy effect. Carbolic acid, by injecting into the substance of the boil, has been more extensively employed than any other remedy, but that it as often meets with failure as with success will be attested by every surgeon who has given it a fair trial. The passage of a needle into an inflamed and highly sensitive furuncle is painful in the extreme and most patients would prefer to let it pursue its natural course rather than be subjected to several such injections with the hope but not assurance of its abortion. Bichlorid of mercury, in 1 to 500 solution, diligently applied, will be found to be equally if not more successful. It has the further advantage that its application is not pain-

ful. Cases will many times be encountered in which the original point of infection has not been properly cared for during or after its eruption. Scattered round about this mother boil will be seen numerous small fledglings in various degrees of incipiency which if left untreated will bloom into full-fledged boils. Here the so-called abortive treatment possesses much efficacy. If the strong solution of bichlorid is thoroughly mopped upon these minute points of infection it will almost certainly result in the destruction of the pyogenic organisms which has produced them. The little elevations will dry up and their career will be ended.

In summarizing, I repeat that the so called condition of furunculosis is a misnomer; that it is not a constitutional disease to be treated by internal remedies, but that it is simply the result of local points of infection originating from a parent source; that its treatment should consist in limiting the pus-producing agency within the bounds of its starting-point, and when this is not practicable, to destroy the pus-cocci by a strong solution of bichlorid of mercury before they are able to start new points of infection; that the so-called abortive treatment has little to commend it except in the very incipiency, and that a strong solution of corrosive sublimate is the agent *par excellence* to be depended upon for this purpose.

SPECIAL ARTICLE.

THE GARRISONING OF OUR TROPICAL POSSESSIONS.

No. 3.

THE SANITARY WELFARE OF PUERTO RICO.

By AZEL AMES, M.D.,

ACTING ASSISTANT-SURGEON, U. S. ARMY; SANITARY INSPECTOR, MILITARY DISTRICTS OF MAYAGUEZ AND PONCE, PUERTO RICO.

WHILE the series of articles of which this is the third is written with especial reference to the sanitary welfare of the American troops garrisoning our tropical islands, and primarily in their interest, it is impossible to intelligently discuss certain factors of the complex sanitary problem which this new dependency of the United States in the Antilles presents without consideration of broader and precedent conditions.

The island of Puerto Rico, lying between latitude 17° 54′ and 18° 30′ 40″ north, and between longitude 9° 34′ and °11 25′ east from Washington, is the most southerly of our recently acquired possessions (of any area) in the West-Indian Archipelago and constitutes in itself a Military Department or District of the United States. Standing, as it henceforth will, as the outpost of the American Republic in the North Atlantic every dictate of self interest and of patriotic pride should impel us to make it, in every feature, civil and military, fully the equal if not the superior of the British representations in the Bahamas or Jamaica, of the French at Guadaloupe or Martinique, or of the Danes at St. Thomas or St. Croix.

Although acquired by force of arms and hence technically conquered territory the *intente* and policy of the United States toward its people differs widely from that usually exercised under similar relations and materially affects the problems of its new rule. Of these problems none is so basic and important as that relating to the conduct of its sanitary affairs, whether considered with reference to the troops that form its garrisons or to the people who are its civil inhabitants.

It is doubtless fortunate for both that its governmental control is, and probably must be for many years, distinctly military, because it insures a degree of order and of stability in rule and in commercial affairs impossible to any other, and because it makes practicable methods, measures, and achievements, purely sanitary in character, not attainable under any but ample military authority. It is equally fortunate that the relation of the island to the United States is that simply of a Military Department or District, because as the "Orders" of the Military Governor, the General commanding the Department, are the *lex suprema*, we have in them a code of law alike simple and comprehensive, rarely difficult of interpretation and free from the entanglements of legislative enactment, and because, as a Department or district there is abundant Constitutional authority,[1] as well as precedent, for provision by Congress for all its requirements, without the involvements that attach to a territorial status.

Subject as the people of Puerto Rico have been for hundreds of years to the rapacious, tyrannical, and debasing rule of the Spaniard, the firm but kindly policy of the American Republic and that honest and efficient conduct of affairs which has everywhere characterized the officers of its Army can but produce appreciative and responsive efforts on the part of the people of the island as soon as their confidence is secured and the stimulus of example has had time to work. It will be helpful to an intelligent grasp of the subjects matter later under discussion if at the outset we briefly consider some of the conditions, natural, social, and governmental which more or less intimately and seriously affect the sanitary welfare of Puerto Rico, its garrison, and its people which existed at, or immediately upon, the formal surrender of the island to the Americans in October, 1898.

Situated in the semitropics, sea-girt, yet closely adjacent to numerous islands similarly conditioned and in close commercial contact with them; thrown up by some mighty submarine upheaval that made the coral reefs of the sea-floor its mountain crests; having an area of 3368 square miles of astonishingly broken and diversified surface, everywhere well watered and covered with luxuriant vegetation to its mountain-tops; having a heavy average rainfall and a mean temperature of 72° F.; its food-products chiefly those common to the semicultivation of the subtropics under Western European rule, Puerto Rico presents an assemblage of natural features and conditions, which have been proven by ample experience,

[1] Constitution of the United States, Art. IV., Sec. 3. Acts of Congress in aid of Alaska and Indian Schools.

decidedly inimical to the health of the Caucasian permanently resident and none too friendly to the native. The intense heat, alternated with frequent and heavy rainfalls; the supersaturation of the rich, alluvial soil; the extreme humidity from these and its sea environment; the rank growth and equally rapid decay of its vegetation, and the lack of sufficiently nutritive properties in its food-products are the most potent of the natural conditions provocative of disease in this beautiful island.

Upon these natural conditions and the native stock of Columbus' day have been engrafted from nearly every nation and clime a population formerly as heterogeneous as could be found in equal compass under the sun. Native, Spaniard, Malay, Corsican, Frank, Berber, Greek, Mongolian, and Hebrew, with now and then an infusion of British and American blood, have mingled here till some degree of homogeneity, with a few dominant strains, has resulted, some 300,000, according to the census of 1887 being blacks. The aborigine, long since blotted out by the vices and cruelty of his Spanish conquerors, gave place to the "flotsam and jetsam" of the Atlantic and Caribbean Sea, often the stranded buccaneers of Drake's, Hawkins', or Morgan's ships, the Malay or Greek corsairs, or the Frankish or Corsican pirates of the Sixteenth and Seventeenth Centuries. Under the iron hand of the Spanish rule and the no less powerful sway of the Roman Catholic Church came order, and in time, organization, some measures of tranquility and great prosperity. With the suppression of piracy the pursuits of commerce and agriculture became dominant and have been, for more than two centuries, the principal interests of the population.

It will doubtless be a surprise to many to learn that this population is not only greater than that of the State of Connecticut (being slightly larger numerically, upon a slightly smaller area), but is far more evenly distributed, making the whole island much more closely populated than Connecticut, as a large part of the population of that State is in its cities and large manufacturing towns, while Puerto Rico has few of the former and none of the latter. By the Spanish census of 1887 there were, approximately, 814,000 inhabitants, or, approximately, 220 persons to the square mile, and to state this is to name a most important factor of every sanitary problem. Of the personal characteristics of the mass of the population and their habits we have no need to speak except as they bear upon the question of sanitation. Indolence and laxity of morals everywhere surely beget poverty and disease. Both are "fast-colored" in Puerto Rico by the climate, the primitive condition of life, and the ease with which its actual necessities are met, while the rapacity of Spanish rule has doubtless done much to suppress ambition and promote pauperism and crime. Nowhere is the admirable Bavarian system of Count Rumford as preventive of pauperism among the people and idleness in the army more needed than here. Of course filth is everywhere a menace to health and filth conditions in and about the home are all too prevalent in Puerto Rico.

It is sad but true that there is very little of either religion, morals, or education in the island, though a laudable effort to establish schools has been made by some municipalities. The marriage relation is lightly held and an amazing proportion of the children are illegitimate. It goes almost without saying that with this large and mixed population so long under such rulers and in a tropical climate, every zymotic disease, every miasmatic influence, every contagious and infectious germ, finds congenial breeding-ground, and that malaria, smallpox, typhoid, venereal infection, etc., might be expected to sharply assert themselves, as they do. It is not intended, however, in this paper to more than outline those conditions which compel the consideration of efficient sanitary administration, leaving to later contributions the review of particular features, their relations, regulation, and control.

Upon the natural and social bases described and the wreck of Spanish misrule the United States military authority undertook upon its accession to establish a government for this insular Department. In accordance with the conciliatory policy of the administration at Washington certain heads of departments of the late Spanish Government at San Juan were retained, and an effort was made to galvanize into life and to engraft upon American Constitutional and Military Law and Practice the dead enactments of the defunct Spanish power. Both these steps, though undoubtedly taken with the best intentions and in the interest of good order and the least possible disturbance of existing conditions, appear in the light of experience, then lacking, to have been mistakes. That they have been productive of much misunderstanding, some distrust, and little good, cannot be doubted. Their bearing upon important sanitary measures will duly appear.

It is evident that the acts of municipal and other authorities of Puerto Rico, especially such as relate to taxation, land titles, the issue of municipal bonds, etc., *must* have sound and sufficient basis of law beneath them. Indeed, a fair and competent test of the adequacy of the law upon which a municipality and its acts stand is the salability of its debentures. If the organic act by which a town or city exists, and the law upon which each of the acts essential to the proper issue of its indebtedness certificates is based, can pass the scrutiny of the bankers of our money-centers, the legal as well as the financial status of that municipality, its officials and its issues may be safely considered sound.

The fact will readily suggest itself that the construction of sewers, which every principal city of Puerto Rico is practically without and sorely needs; of water-works and their improvements; of markets and abattoirs; of garbage and other crematories; of public baths, etc., all of which are seriously and zealously contemplated by the principal municipalities will require them to negotiate loans by sale of their bonds or other promises to pay. For these bonds to have any negotiable value in such money-centers as New York, Boston, or London, their legal status must, as already stated, be unimpeachable. The same will hold good of any boards, commissions, or other bodies upon whom may be devolved by the conjoint action of municipalities, or of the government with some of them, the construction of sanitary or other public works and of their debenture issues.

It is plain, therefore, that the creation of the larger and more important sanitary works, from which the most essential improvements in hygienic conditions must chiefly come, must depend (so far as they are municipal or conjoint constructions) upon the soundness of the legal basis upon which these cities and their negotiable securities rest. This basis hence becomes the foundation of the sanitary welfare of Puerto Rico, alike of its garrison and of its people.

Yet no satisfactory basis has existed since the advent of American rule, or seemingly can exist, until by adequate decrees and orders of the Military Governor (the supreme, the only valid law possible to this insular Military Department, except the Acts of Congress of the United States) due and proper existence is given to municipal alcaldes and councils, assessors, tax-collectors, registrars, constables, etc. The Spanish law is dead with the hand that gave it life and that alone could enforce it. It could not be revivified by any sweeping and inclusive order of a military commander. Its verbal incongruities alone forbid, while the grave incompatabilities which attended the effort to engraft its moribund decrees upon the virile American Constitutional and Military Law and Practice could not fail to prove abortive.

If it is desired to put in force certain provisions of the former Spanish law which commend themselves nothing can be easier than for the Military Governor, by the plenary power vested in him, to enact them by "General Orders" into that code of unassailable law which his successive and in nowise restricted "Orders" are building up as unimpeachable law for Puerto Rico. If, to carry forward in the only safe and practicable way apparent, the desire of the President and people of the United States, that the people of Puerto Rico shall be, as far as wise, given the management of their purely local affairs and be taught experimentally American methods of municipal control, it will be an easy matter for the Military Governor to create by "Orders" new charters for municipalities; to appoint proper enrolling officers for such districts of the island as he sees fit to establish; to fix the eligibility qualifications for enrollment as voters in these districts; to indicate the officers for whom they shall vote; to order and regulate the holding of elections for such officers, *e.g.*, alcaldes, councillors, constables, etc.; and to provide for their proper installation into, and the conduct of, their respective offices, etc. He would thus, at once, and by law and authority which cannot be questioned, while abating no particle of his power of veto or control, lay solidly the primary foundations of that local autonomy which the people of the United States and those of Puerto Rico alike desire the latter shall enjoy, and put the municipalities on a footing at once simple and satisfactory to the most critical investor.

Until this shall be done it is gravely to be feared that those cardinal improvements necessary to the sanitary well-being of some of the principal places cannot go forward from the inability of these cities to obtain, by pledges of their credit, although perfectly sound financially, the requisite funds. In such places only such improvements as the annual tax levy can meet, or as—from the benefit to accrue directly to the troops—may be met from the military chest, can be attempted.

It is so often impossible to secure sanitary conditions of primary importance to troops, as in matters of water- and food-supplies, sewerage, disposal of garbage, etc., except as general provision is made for the municipalities they garrison, that one is constantly reminded in military hygienic undertakings, as in civil, of the epigram of John Simon when Medical Officer of the Privy Council of Great Britain, that "We can only secure our own immunity from disease by caring for the health of our less-fortunate neighbors."

When troops are garrisoned in or adjacent to populous communities both are of necessity a constant menace to each other's health, as the experience of Spanish troops quartered in Puerto Rican and Cuban cities has so often attested. Under the advance in science, however, now available, and the control of a Nation of the high intelligence and resources of the United States to-day these danger conditions ought not only to be reduced to the minimum, but soldier and citizen ought to be intelligent and effective allies in promoting this reduction. Of the duty of the Nation itself it will not be gainsaid that to our representatives in arms in this outpost in the Antilles we owe every care, protection, and support that it is in our power to give, and to the people of Puerto Rico we owe the fullest recognition of the fact so well expressed by Kidd,[1] that "*We hold these new dependencies in trust for civilization.*"

A sound legal foundation, competent organization, executive men, and elementary education upon domestic hygiene among the children are the chief agencies demanded for the sanitary welfare of Puerto Rico to-day. The all-important relation which the garrison troops of the United States sustain to the general sanitary welfare and the considerations especially affecting the army itself will afford matter for my next paper.

MEDICAL PROGRESS.

The Ultimate Results of Curetting the Uterus for Puerperal Infection.—FERRE (*Centralbl. für Gyn.*, November 5, 1898) gives the results of thirty-four cases of curetting of the uterus for puerperal infection, and proves from these that curetting is a better treatment than irrigation, not only in its immediate effects, but also in the ultimate results. In instances where irrigation was the only method of treatment employed, recovery was often followed by subinvolution of the uterus, inflammation of the adnexa, and occasionally peri-uterine infiltration with pain and suppuration. Consequently curetting is to be advocated rather than simple intra-uterine douches.

Formation of Joints between Bones Normally Independent.—OLLIER (*Centralbl. f. Chir.*, October 22, 1898) showed long since that it is possible in men and in animals to create a joint between bones whose normal joint surfaces have been destroyed. Now he has gone a step further in his surgical attempts, and has succeeded in reestablish-

[1] Benjamin Kidd, "The Control of the Tropics."

ing motion at the shoulder, in a man who had lost the head of the humerus and the whole of the scapula in an accident twenty-two years previously. The arm hung helpless at the side. Ollier dissected the upper end of the humerus free from the scar tissue, resected a small portion, preserving the periosteum, and stitched both the bone and its periosteum to the clavicle, using two platinum stitches which were left in place. If a bony union had taken place there would still have been sufficient motion in the sternoclavicular joint to enable the patient to use his arm to some extent. There followed, however, only a fibrous union so that there was fairly good motion between the bones, especially in the anteroposterior direction. Particular attention was given at the operation to the separation and suture of the deltoid and other muscles about the joint, so that they should have a point of support on the clavicle and its fibrous attachments. The bandages were changed at the end of ten days, but the arm was kept immovable for four months. It appeared at first that there was bony union, but this soon became fibrous, and after years of practice, the joint had become a really good one, and the strength of the atrophied arm had so far recovered that the patient could carry as much weight with one hand as with the other, and without any apparatus he could put his hand on the opposite shoulder or the top of his head.

On the Nature of Immunity and the Cure of Infection.—EMMERICH and LOEW (*Munch. med. Wochenschr.*, November 8, 1898) have made important discoveries regarding immunity and the healing of infectious diseases. The full reports of their investigations have not yet been published, but the practical results are thus summed up by the investigators:

1. Many times a culture of bacteria will cease growing, although there is sufficient nutritive material, and the surroundings are favorable. This cessation of growth is due to the presence of enzyms which are formed by the bacteria themselves, but which ultimately dissolve the bacteria.

2. There are bacterial enzyms which are not only capable of destroying their own particular kind of bacteria, but other kinds as well, including pathogenic ones.

3. Since these bacteriolytic enzyms are capable of destroying bacteria in the living body, there is a possibility of stopping infectious processes by their use. For instance, it is possible to cure an otherwise surely fatal infection with anthrax inside of thirty hours by means of the enzym of bacillus pyocyaneus. Since a single cubic centimeter of this enzym solution will destroy in twelve to twenty-four hours millions of diphtheria, cholera, or typhoid bacilli in a test-glass it is possible that it may have the power of healing these diseases if rightly appiied. It has a similar action upon the bacillus of the plague.

4. Bacteriolytic enzyms are soon destroyed in a living body, and for this reason, although it is possible to cure an infectious disease, it is impossible to confer immunity for any long period of time. The enzym may, however, be combined in the laboratory with an animal albumin so that it will remain unchanged in the living body and confer immunity against particular kinds of infection. The investigators succeeded in this manner in making a rabbit immune to anthrax, and a guinea-pig immune to diphtheria. The so-called agglutination is the first stage of the destruction of the bacteria by the enzyms.

5. The difference in the reactions obtained with any given immunizing serum in the laboratory and in the living body is due to the presence or absence of oxygen. If this is excluded from the test-glass specific pathogenic germs in a test-glass are not only agglutinated, but killed and dissolved, a fact which has been shown by experiments upon the bacilli of cholera and typhoid.

The Oppler-Boas Bacillus in the Diagnosis of Gastric Carcinoma.—KNICKERBOCKER (*Phil. Med. Jour.*, November 19, 1898) discusses the importance of the Oppler-Boas bacillus in the diagnosis of carcinoma. It is an unusually long, non-motile, thread-like bacterium, found in the contents of carcinomatous stomachs. The germs lie end to end or at right angles to each other. So far as is known, it never appears in the presence of hydrochloric acid. Numerous observers have confirmed the presence of these bacilli in enormous numbers in cases of gastric carcinoma, and their absence, accompanied by the absence of lactic acid, in the presence of pyloric stenosis, is an argument against carcinoma. The best opinion seems to be that this bacillus, while not pathognomonic of gastric carcinoma, is very important in the diagnosis. The bacillus stains readily with the anilin dyes. Knickerbocker's experience coincides with that of the European observers, and from it he draws the following conclusions:

1. That, while not pathognomonic of carcinoma, the presence of the Oppler-Boas bacilli is of the utmost diagnostic value.

2. That their presence may be demonstrated in nearly all cases at some stage of the disease.

3. That in a large number of cases the bacilli may be found before the tumor has involved surrounding structures to such an extent as to make extirpation impracticable.

4. That in a limited number of cases the bacilli may be found before palpable evidences of tumor.

Sexuality in the Etiology of Neuroses.—FREUD (*Centralbl. f. inner. Med.*, November 5, 1898) laments the disinclination of patients and physicians to examine into the sexual history of the individual who is suffering from any neurosis. He makes the broad statement that in every case of neurosis there is a sexual etiology which can be brought out by the examination in the case of neurasthenia but which rests upon the sexual experiences of childhood in the case of psychoneuroses, and these have been often forgotten. Among neurasthenic patients there are two forms, distinct symptomatically and etiologically. One of these is marked by headache, lassitude, dyspepsia, spinal irritation, constipation, etc., and is due to excessive masturbation, or to frequently repeated nocturnal emissions. The other form is characterized by a sort of fear or anxiety, and is due to ungratified desire, as the result of interrupted coitus, etc. Some patients are seen in whom the occurrence of both causes have produced some of both classes of symptoms. The usual

therapeutic measures are directed to the strengthening of the individual, and to the preservation of his strength. They often fail of their purpose, because they do not take account of the sexual conditions of the patient. There are two new principles to be added: The overcoming of the habit of masturbation, which can only be accomplished in a sanatarium, under the constant supervision of the physician, and later when the aroused sexual appetite will no longer be suppressed, the introduction of a normal habit of coitus. Here the physician finds himself opposed to social problems. In the case of married people who are unwilling to have children, he must not refuse to listen to their difficulties, or he will only force them into their previous bad habits. Unfortunately, there is no means of preventing conception which fulfils all the requirements. Psychoneuroses, which are the result of unconscious sexual experiences in childhood, require a different treatment, and at the best are only to be mastered by much effort and patience.

THERAPEUTIC NOTES.

A Simple Method of Curing Aphonia.—ABRAMS (*Ther. Gaz.*, November 15, 1898) has used successfully the following simple method of curing aphonia. He marks with a pencil on either side of the neck the point where the superior laryngeal nerve sends its internal branch into the larynx. This is the nerve of sensation for that organ, as will be remembered. Then with chlorid of methyl, or a spray of rhigolen he freezes thoroughly the spots marked. The relief is in most instances instantaneous, and phonation which before was difficult or painful, can be performed with perfect freedom. Sometimes the relief thus afforded is of only short duration, and the freezing must be repeated one or several times. The method is relatively painless, and the results are phenomenally good. It is often of value, too, in neuroses of the larynx, like laryngismus stridulus, spastic aphonia, and in the laryngeal crisis of tabes dorsalis.

To explain the action of the method, Abrams suggests three hypotheses: (1) Freezing may act as a counter-irritant and the results achieved may be due to local or reflex action. (2) Freezing may act by producing physical changes in the underlying structures. (3) It may act as a shock.

He rejects the first of these hypotheses on the ground that the reduction of temperature is never great enough to produce the results in this manner. For the same reason the second hypothesis must be rejected. To produce nerve degeneration, the freezing must be of inordinate degree, or frequently repeated, as shown by experiments upon rabbits. The third supposition is therefore the probable one, *viz.*, that the cold acts as a shock and inhibits nerve action for a variable period. To inhibit the pathological action of a nerve, expresses the ideal attainment of therapeusis, and the advantage to a professional of regaining the use of his voice, even for a short time, needs no proof.

Septicemia Successfully Treated by Venesection and Infusion of Salt Solution.—YOUNG (*Maryland Med. Jour.*, November 19, 1898) reports a case of appendicitis in which operation was performed upon a fifteen-year-old boy. The appendix was found in an abscess cavity. It was removed and the abscess drained. The patient's condition was good during the day, but late in the evening the temperature reached 103° F. and the pulse 118. The condition grew worse the following day, and in spite of stimulants and enemata thirst and vomiting increased. Seven hundred c. c. of normal salt solution was injected beneath the right breast with no appreciable result. At 7 P.M., 36 hours after the operation, the temperature was 105.8°, pulse 156. The condition was one of general septicemia, and it was evident that extreme measures were necessary in order to save the patient. Under cocain a large aspirating-needle was inserted into the right bacilic vein. The blood-pressure was so low that only two and a half ounces of blood escaped. Thirteen hundred c. c. (nearly three pints) of normal salt solution was slowly injected, about one hour being occupied in the operation. At the end of that time the pulse had fallen to 130, and the temperature to 104° F. The improvement lasted only a few hours, and at seven o'clock the following morning 2500 c.c. (two and one-half quarts) of salt solution was injected. The temperature and pulse dropped almost to normal, the patient passed large quantities of urine, and made an uneventful recovery. Young considers that this case proves the necessity of injecting large amounts of saline solution in order to cure acute sepsis. If four and one-half quarts were required in a delicate boy of fifteen, probably six or seven quarts would not be too much for an adult. At any rate, little good is to be expected from the injection of two or three pints.

Advantages of Beta-Eucain in Producing Local Anesthesia.—BRAUN (*Arch. f. klin. Chirurg.*, vol. 57, p. 370) gives the result of a long series of trials of different drugs to produce local anesthesia. He found that the amounts of morphin which Schleich recommended for his local anesthesia were so slight that they had no paralyzing effect upon sensation, but that morphin even in such small doses has the unpleasant effect of causing edema. This is particularly noticeable in regions of loose tissue (operation for phimosis for example). He found that the effect of cocain was perceptible in as dilute a solution as 1-20,000. His trials showed him that eucain "A" was somewhat irritating and far below cocain in anesthetic power. With beta-eucain, however, he obtained good results, as good as those with cocain itself, as like cocain it had no irritating effect on the tissues, and was effectual in very dilute solutions. As it is less poisonous than cocain, and can be boiled repeatedly without loss of power, and will not degenerate when kept in dilute solution, it has important advantages over cocain for general use as a local anesthetic. The following solution is recommended:

℞	Beta-eucain	gr. i
	Sodii chloridi	gr. viii
	Aq. dest.	℥ ii.

The anesthesia produced by this solution will last from ten minutes to one hour, and there is absolutely no effect upon the healing of the wound.

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PROFESSIONAL DIGNITY.

There appeared recently in the columns of one of the New York daily papers an article with the striking caption, "Race against Death for a Keg of Beer." It contained an account of "one of the unwritten laws" governing the ambulance corps of a well-known city hospital, and stated that as a forfeit for bringing a corpse into the hospital in the ambulance the surgeon in charge had to set up a keg of beer for his fellows. In order to escape the payment of the forfeit when ambulance patients are very low and each gasp may be the last, ambulance-surgeons are represented as "standing in" with the drivers of the wagons. The idea of this collusion between driver and doctor, though not explicitly stated, being evidently for the purpose, should the doctor be in danger of incurring the forfeit, of having the driver whip up his horses.

We have waited over a week to see some correction of this story, but none has appeared. A little inquiry brings out the fact that while the unwritten law mentioned has not all the force of a Draconian edict, there is, nevertheless, a foundation for the newspaper story. Without any but the kindliest feelings in the matter, we would suggest that the procedure is scarcely in keeping with the dignity that is expected of members of the medical profession even though these promising scions are only just entering upon their career. We appreciate, of course, that the establishment of the custom is due to an overflow of youthful spirits at the discomforture of a younger professional brother, but there is a passage somewhere about putting off the things of childhood when one is no longer a child, that we commend to hospital residents' meditation.

Besides the lack of dignity we see the possibility of two sources of danger to human life in the custom as outlined. Accidents to ambulances on our streets are frequent and serious enough without the possibility of their being added to by reckless driving because a foolish forfeit is to be avoided. For the young and inexperienced ambulance-surgeon, and at times, too, for the older hand, the thought of the ridicule that will follow the bringing in of a corpse may sometimes seriously hamper the judgment in the matter of the doubtful cases in which a rapidly fatal issue seems not unlikely. At such moments the medical man needs all his diagnostic and prognostic skill, and a judgment absolutely unhampered by any thought but what is best for the patient. This may be the delay of a few minutes until some reaction has set in before the ride to the hospital is attempted, or immediate rapid transfer to the hospital for the sake of the better conveniences there. May we say then, not in any carping or acrimonious spirit (we were young once ourselves) that the hospital-ambulance system will be better without the unwritten law in question.

ANATOMICAL NOMENCLATURE OF THE NERVOUS SYSTEM.

We publish this week an abstract of Professor Wilder's opening address before the recent meeting of the Association of American Anatomists. Our abstract represents fairly enough, as far as our space would admit, Professor Wilder's ideas, but we know that it does not do justice to his vigorous, finished style, and his persuasive method of presenting the subject. Some of the good points our reporter has caught, and we refer our readers to them.

The subject of reform in the anatomical nomenclature of the nervous system is a most interesting one. The crying need of reform is manifest. A

prominent psychoneurologist quoted by Professor Wilder thinks that one-half the time at present required for the study of the anatomy of the nervous system would be saved to the student if the reforms suggested could be carried into effect. Now is pre-eminently the time to introduce them, since of late years the great advance in our knowledge of neural-pathology and anatomy has made modifications doubly necessary. What has been discovered up to the present time, however, is but a mite compared to what lies within our reach in the near future in the comparatively unexplored fields of anatomical psychology and neurology.

It is unfortunate that the work so well begun by the committee of the Anatomical Association has been hindered by the overcautious, the too conservative, the too Germanic, and the let-well-enough-alone people, who fear the results of reform, and think Americans not in a position to think for themselves in the matter or to select for themselves the terms in English best suited for teaching purposes. In Oliver Wendel Holmes' words, it is difficult to teach an ancient canine new devices or an old professor new tricks. Perhaps, as Harvey said, "It is not to be expected that any one over forty should accept a new idea," and we must not look for reform in our generation. The need is so great, however, and becoming so much greater as the number of students increases that we heartily welcome renewed agitation of the subject. It is only by long-continued agitation that ideas as well as material particles that have no natural affinity can be gotten into contact so that when the moment of definite interaction comes they shall be in a position to accomplish the reactions expected of them. Let us hope that unlike inert natural elements, some extraneous force will not be required to start the process that will finally lead to union in the matter, but that the intellectum agens of the professorial body will prove to be the only factor needed to overcome the present inertia of a too halting conservatism.

THE PHONOGRAPH AND THE DIDACTIC LECTURE.

DR. HOLMES' suggestion made recently at the meeting of the Association of American Anatomists merits perhaps some consideration from professors of other branches of medicine than anatomy. The genial doctor suggests a phonograph loaded with what is best as to matter, and suave and taking as to manner, instead of the trite and commonplace didactic lecture, whose main purpose would seem only too often to be, to provide an hour of soothing rest for the overworked medical student. The wonderful influence claimed for the vox humana would not be entirely lost by the substitution, and the professor's precious time might be devoted to the more profitable labor (for science at least) of research and investigation.

One distinct advantage that we foresee would surely accrue from the use of the phonograph is that the next generation of medical men would probably be trained to something like uniformity in the pronunciation of medical terms. It is true the phonograph might require careful watching in this respect or, like a friend's typewriter (the machine) which he discarded because it spelled badly, this new mechanical labor-saving device might acquire bad habits. It would at least be consistent in its errors we feel sure and not accent the penult of a word at the beginning of a lecture and hammer out the accent on the antepenultimate at the end of it. But this is only a minor advantage compared to the fact that we could, with the advent of phonograph days, be sure of having an ideal set of didactic lectures as regards both matter and style. They could be made to equal the text-book, be kept thoroughly up to date, and small replicas of them might be furnished each student so that whenever he wished he could have a repetition of a specially exhaustive or peculiarly important lecture.

The discussion of Dr. Holmes' paper at the session of the Anatomical Association shows that at least professors of anatomy consider that the didactic lecture in the medical school has practically outlived its usefulness. It has still place in the curriculum, but instead of being of first importance the advance in scientific medicine and above all in the science of pedagogics have relegated it to a very secondary position. As a supposed conveyer of information, as a useful means of teaching anatomy, as the important feature of an anatomical course, the didactic lecture no longer has a place. There is a function for the lecture but not as a lecture. As Professor Gerrish said it is still of the greatest usefulness in blocking out work for demonstration. As an independent

entity it is bad, yes worse than bad, since it represents failure to advance in methods of teaching. Advance is patent all around us and medical schools ought to be among the first not the last to avail themselves of what is good in modern pedagogics.

We quit the subject for the moment regretfully, so much remains to be said, but we shall have something to say in this regard again next week in touching upon the discussion of "Advances in Methods of Teaching Science," which constituted the program at the recent joint meeting of the affiliated societies that make up the Association of American Naturalists.

TIGHT-LACING AND PERIODIC HEMATURIA.

PROFESSOR ROVSING of Copenhagen, very well known in Europe as a genito-urinary specialist and a conservative surgeon of acute observation, reports in the *British Medical Journal*, November 19, 1898, a case of hematuria occurring at intervals and finally so serious in character as to necessitate operation. It was found that the bleeding was due to the traumatic effect of extremely tight corsets "the superior pole of the kidney having been pressed between the liver and the ribs." Professor Rovsing concludes his report with the remark, "As I have never seen this alteration of the kidney mentioned among the sequelæ of tight-lacing I will call your attention to this fact as a hitherto neglected and perhaps frequent cause of r nal hemorrhage of apparently mysterious origin.".

The case is of additional interest because it occurred in a young woman of typically nervous diathesis, slightly built, frequently changing color, and varying humor, in whose case the temptation to diagnose some form of nervous hematuria would be especially strong. In the intervals between the hemorrhages the urine was perfectly normal. We are tempted to wonder how many of the cases of so-called idiopathic hematuria, hematuria without a cause, renal epistaxis, etc., or of such indefinite origin as "renal hemophilia," or "neurotic hematuria," or "hematuria neuralgia," or "malarial hematuria," with no other manifestations of malaria present, or finally that delightfully satisfying, because charmingly full-mouthed etiologic discovery, "renal angioneurosis" are due to this simple yet hitherto unnoted cause! In this connection attention is called to a pointed question in physics, presented in another column.

THE STUDY OF CONTAGIOUS DISEASES.

WE have waited patiently and spared comment in the hope of a reconsideration of the action of the Philadelphia Board of Health in refusing the request of the United Medical Schools of Philadelphia that opportunities be granted their students to see cases of contagious disease. It now seems, however, that their refusal to permit the wards of the Municipal Hospital (the city hospital for contagious diseases) to be used for the purpose of demonstrating types of contagious diseases to students is, for the time being at least, final. The reason given is the fear of the spread of the contagious disease. This is, we think, under the circumstances, a specious argument. It is the medical profession that has organized the present system of sanitation by which contagious diseases are rendered so innocuous in crowded centers of population and it is safe to infer that they may be trusted to take care that the study of them shall not prove a source of contagion.

This is a matter in which non-medical opinion should not have too great weight, and non-medical men the deciding voice. Philadelphia has, however, to her cost in medical matters at least, allowed non-medical opinion and lay officials to dictate the policy of her charitable institutions as far as regards the use of their patients for teaching purposes. There was a time when Philadelphia was the great medical center of this country. If in recent years her distinction in this matter has been gradually slipping away from her it has not been so much because her great medical schools have degenerated from their pristine vigor or because the profession in Philadelphia does not contain the giants there were in those days, as that the ultra conservatism of certain city officials have hampered medical teaching by refusing to grant it the opportunities so readily accorded elsewhere.

This last decision is of a piece with the rest of the narrow-minded policy the city officials have thought it best to follow. It caps the climax of that policy and stamps it as extremely short sighted.

Other cities have realized the necessity to the student of personal observations in cases of contagious

diseases. The facilities granted for study have, we believe, in no case had any serious result.

How much the medical men of Pennsylvania need this personal observation of contagious diseases is brought out clearly by the fact that there was, and if we mistake not, still is, an epidemic of smallpox in certain towns in the interior of the State, which was allowed to gain the hold that it has because it was at first unrecognized by the local physicians. They cannot be blamed, seeing that their only acquaintance with the disease was through the unsatisfactory medium of a text-book.

ENGLAND'S SCHOOL OF TROPIC DISEASES.

WE regret to say that the more the details of the plan of the English Government's new School for the Study of Tropical Diseases unfold themselves the greater the opposition to it becomes. This has now culminated in a memorial addressed to the *Times* by a committee of leading physicians, consisting of such men as Sir Wm. Roberts, Sir Dyce Duckworth, Sir Wm. Gowers, Burney Yeo, and others, protesting against the entire plan in its present form. They base their protest upon the following substantial grounds: First, that the proposed outlay for new buildings involved is $80,000, of which the Government promises *only $17,500*, the cost of maintenance, $15,000 a year, toward which the Colonial Office offers only *$5000 in candidates fees*, leaving $62,500, and $10,000 per annum to be supplied by the benevolent public upon whom *all the great hospitals* already rely for the bulk of their financial support. Second, that the proposed site at the Seamen's Hospital, Albert Docks, is extremely inaccessible, and the neighborhood utterly unsuited for the even temporary residence of students. Thirdly, neither the College of Physicians, nor any of the great medical schools, or recognized leaders in the profession have been consulted in any way. Even the staff of the hospital utilized received their first notification of the scheme through the newspapers by seeing there their own names as proposed teachers in the school.

The profession and the medical schools are anxious to concentrate their cases of tropical diseases at some central hospital and arrange for instruction in them without any of this excessive and needless expense, but they naturally object to being ignored in this high-handed manner. Besides, as Mr. Jonathan Hutchinson forcibly points out in the same issue of the *Times*, the profession has just organized a Polyclinic in a most central situation for the benefit of just such colonial physicians, medical missionaries, and other graduate students as the Government school expects to enroll, and the two institutions would be in direct and injurious competition with each other. As the Polyclinic is composed of representatives of every large hospital in London, and can draw its cases from the wards of all of them, it would certainly seem a pity that it and the School of Tropical Diseases could not be combined in some way instead of directly antagonizing one another.

The spectacle of the richest government and greatest colonizing power in the world calmly proposing to pay only *one-fifth* of the expenses of a school to devise means of making the tropics inhabitable by white men is an exhibition which ought to make even officialdom ashamed of its stinginess and stupidity. Considered even as a death-bed repentance for long years of ostrich-like and persistent ignoring of the inestimable services rendered the State by the medical profession it is absurdly inadequate.

ECHOES AND NEWS.

Dr. Little as Professor at Dublin.—Dr. James Little has been nominated as Regius Professor of the Institutes of Medicine at the University of Dublin, Ireland, to succeed Sir John Banks.

The Economy of a Vegetable Diet.—At the vegetarian restaurants now in operation in London a regular dinner can be had for twelve cents, and for thirty cents three meals a day are furnished. No element of flesh enters into the food, but it is said to be well-cooked, palatable, and well-served.

Examination of Applicants for the Marine Hospital Service.—A board of officers will be convened at the United States Marine Hospital, Chicago, Ill., February 14, 1899, for the purpose of examining candidates for admission to the grade of assistant-surgeon in the United States Marine Hospital Service.

Sick Report from Honolulu.—Mail received at San Francisco on the 3d inst. states that two soldiers recently died from typhoid fever. Seven or eight soldiers of the First New York are still at Hilo, too sick to be removed to Honolulu. About 100 convalescents, mostly of the First New York are in a convalescent camp.

Donation to the Lawrence Scientific School, Harvard.—Mr. Charles Wheeler of Philadelphia has given $5000 to Harvard, in memory of his son, Stuart Wadsworth Wheeler, Class of '98, who served during the campaign in Puerto Rico and died in Boston recently, his health having been undermined during the hardships of the campaign in the tropics. The money is to be invested, it is said, and the interest used as a loan fund in the Lawrence Scientific School.

Dr. Von Esmarck's Suggestion.—Dr. Von Esmarck who, through his wife, is closely connected with the imperial house, has written a paper in which he states his opinion that the Czar's conference should aim, at least, to mitigate the horrors of war. The doctor protests against the use of the dum-dum bullet in civilized warfare, and urges that all small-caliber bullets should be cased entirely, or at least at the point in hard metal. Every soldier should, in his opinion, be instructed in Red-Cross work.

The Micro-organism of Faulty Rum.—In the *Lancet* of December 10, 1898, it is stated that this micro-organism has been found; we are informed that it has hitherto escaped observation because it was supposed that no organism whatever could live in liquid of such alcoholic strength as rum. This discovery may prove a valuable addition to the temperance-advocate's armamentarium. No doubt this micro-organism, when magnified upon the stereopticon screen, will be found a hideous monster.

A French Medical Review Suspends.—It is announced that the *Revue des Sciences Medicales*, a quarterly review of reviews in medical literature very well known in other countries as well as in France is about to suspend publication. The *Revue* was established nearly thirty years ago. For the last few years it has been under the editorial direction of Professor George Hayem, the well-known Professor at the University of Paris and the author of a number of books and articles on clinical medicine.

Liquid Air.—The profitable uses that can be made of liquid air, especially in hospitals, are almost unlimited. A quart of it placed in a ventilator will furnish pure air for a day. Fever patients can be kept in rooms cooled to zero, even in the tropics, which would make the nursing of yellow fever perfectly safe, and at the same time, facilitate the recovery of the patient. It might be used with great advantage as a cauterizing agent in cancer, as its action is perfectly under control, and can be instantly stopped.

Can Be Read Backward or Forward.—"The fundamental propositions of Christian Science are summarized in the four following *self-evident* propositions. Even if read backward, these propositions will be found to agree in statement and proof. 1. God is All. 2. God is Good; Good is Mind. 3. God, Spirit being all, nothing is matter. 4. Life, God, omnipotent Good, deny death, evil, sin, disease. Disease, sin, evil, death, deny Good, omnipotent God, Life." From "Science and Health," the Christian Scientists' *vade mecum*.

A Sanatorium for Americans at Nagasaki.—The authorities at Washington are said to have under consideration a plan for establishing at Nagasaki, Japan, a sanatorium for American civilians and soldiers who have been debilitated by the climate in the Philippines. Nagasaki is not especially well equipped for a health-resort, and its climate and surroundings are not appreciably different from those of Manila or Iloilo. There are mountains in the Philippines on the sides of which the debilitated could breathe comparatively cool and pure air and could live among hygienic surroundings.

Pharmaceutical Possibilities.—The "class yell" of the Juniors in Pharmacy at Purdue University runneth thus:

> Physostigma venenosum! Pilocarpus nodulosum!
> Staphisagria, bergamot!
> Pharmacy, pharmacy,
> Naughty naught!

There is a disregard for Latinity in it that finical and supercilious criticism might designate as typically pharmacal, but it illustrates the vocally *noisome* possibilities that exist in the orotund Latin drug names in a way that has never been brought out before. Not everything under the sun in pharmacy is old.

Noise as an Etiological Factor.—Dr. R. W. Hastings has written a paper on this subject which appears in the *Journal of the American Medical Association* of December 24, 1898. He enumerates a number of noises, to which he would certainly have added in italics, had he experienced it, the noise produced by the closing of doors on the Metropolitan Company's street-cars of this city. The conductor seizes the handles, grins like a torturing demon, and then these doors collide with a noise like the simultaneous and concentrated report of a company's musketry fire; it is absolutely unnecessary and certainly avoidable.

Acetanilid Sold for Phenacetin.—Dr. Henry Schmeitzer, an expert chemist, has analyzed a quantity of packages of so-called phenacetin; these samples were found to be mixtures of acetanilid with flour, starch, sugar, bicarbonate of soda, chalk and citric acid. Acetanilid costs fifty cents a pound, while phenacetin costs eighty-five cents an ounce. According to the New York Board of Health, other drugs largely adulterated are citrate of magnesia, bisulphate of quinin, cream of tartar and acid phosphates. The inference is that in using these drugs one should make sure that he has procured the genuine article.

Fire-proof Buildings for the Insane.—The New York Commission in Lunacy has upon its hands the construction and equipment of a new group of cottages, to be built at Central Islip, Long Island, for the Manhattan State Hospital for the Insane. The buildings must be heated, ventilated, and supplied with water and a plant for electric lighting, and the cost must be kept within the amount of the appropriation fixed by law, namely, $500 per patient. This *per-capita* outlay is too small to admit of the Commission entering into contracts that will provide structures that are proof against fire, and it is stated that New York is the only State in the Union that is now building its structures of wood. In case of a fire there is not a more helpless class of people imagina-

ble than the insane. They either sink down to the floor in despair, refusing to make any effect to save themselves, rush wildly into the flames, or leap from upper-story windows to their death. In view of the horrible loss of life in the burning of the State Hospital for a similar class of patients in Illinois, in which scores of patients lost their lives, it would be an act of criminal folly to erect, out on the open plains of Long Island, far from the protection of an adequate fire-department, a group of buildings, the whole interior of which is to be constructed of inflammable wood, through which a gale of wind would sweep a fire with terrifying rapidity.

A Question in Physics.—The accompanying illustrations clipped from a fashion-plate were pinned to a note and forwarded, with the following comment, to Dr. Howard A. Kelly of Baltimore, by one of his younger patients, with whom he had been doing some missionary work along the lines of health and hygiene: "Do you

FIG. 1.

Style No. 400. Ladies' Bicycle waist.

FIG. 2.

Style No. 245. For misses 10 to 16 years of age.

suppose the poor fools who wear No. 400 think their waists get naturally smaller after sixteen? It would be unbusiness-like for doctors to complain. It is so hideous that artists might. Where do you suppose her 'superfluous' (?) insides are? In her shoes?" It is a hopeful sign of the times that our women patients begin to think and to ask such questions.

The New York Academy of Medicine.—At a stated meeting of the New York Academy of Medicine, held Thursday evening, January 5, 1899, the newly elected President, Dr. W. H. Thomson, took the Chair. In his retiring address the late President, Dr. E. G. Janeway, reviewed the work of the Academy during his term of office and dwelt at length upon the report of the Library Committee. He alluded to the fact that the library of the Academy, by reason of the generosity of the trustees of the New York Hospital in their gift of the library of that institution, is now next to the largest medical library in the United States, being surpassed only by that at Washington, and strongly urged the members to make every effort toward the completion of the Library Endowment Fund. He expressed the hope that the debt of the Academy might speedily be wiped out by individual subscription and stated his willingness to contribute his share toward that much to be desired end. He touched upon the laboratory connected with the Academy, which he considers of great importance in increasing its influence in the profession and which he thinks can and should be made self-supporting. He strongly urged that efforts in this direction be made when the Library Fund is completed. He also referred to the report of the Committee on Expert Testimony in Court which was appointed to frame a bill leading to reform which the Academy could support. He said he desired to thank the Chairman, Dr. Starr, for his earnest efforts in this direction and attributed the little progress which had been made by the Committee to the fact that there are many obstacles to be encountered, the chief of which is the difficulty in gaining the cooperation of the legal profession and in inducing the judiciary to accept a reasonable bill. He expressed the fear that reform will not come in this century. He referred with regret to the resignation from the Board of Trustees of the Academy of Dr. A. Jacobi whose efforts had done so much to make the organization what it is, and, in closing, expressed the hope that under the leadership of his honored successor the Academy would prosper as it never has before. In his inaugural address Dr. Thomson, after thanking the Fellows for the honor they had conferred upon him, spoke of the purpose for which the Academy was founded, viz., to advance the progress of medicine, and expressed regret that the growth of specialism had necessitated the breaking up of the body into sections. He referred to the time when weekly general meetings were held, at which topics of universal interest were discussed and which were largely attended by the general practitioner, and suggested that the progress of medicine could best be advanced by the discussion at consecutive general meetings of such subjects as syphilis, for example, from the various standpoints of the general practitioner, the dermatologist, and the neurologist. The latter part of the address was devoted to a consideration of immunization, vaccination, serum-therapy, and the etiology of edema. Before the close of the meeting an oil portrait of Dr. Joseph D. Bryant, former president, was presented to the Academy, the presentation address being made by Dr. A. Jacobi.

SPECIAL ARTICLE.

SCIENTIFIC AND EDUCATIONAL REFORMS.

MEDICAL NOTES FROM MEETINGS OF SECTIONS OF THE ASSOCIATION OF AMERICAN NATURALISTS HELD AT VARIOUS EDUCATIONAL INSTITUTIONS IN NEW YORK CITY DURING CHRISTMAS WEEK, 1898.

PROFESSOR BURT WILDER of Cornell University, President of the Association, opened the general session with an address on some misapprehensions as to the simplified nomenclature of neural terms. He spoke at considerable length, more especially of two sources, of misapprehension as to the neural terms that had been suggested by him and recommended for adoption by a

majority of a committee of the American Association of Anatomists appointed for that purpose. There is a false impression abroad that it is his personal influence that swayed the majority of the committee, in spite of the well-known fact that the other members who signed the majority report are independent thinkers, interested teachers, and capable investigators. It is also thought that most of the terms recommended for adoption are new and unusual in English. Nothing could well be more false. Barclay in 1803 had suggested some of them, especially the much-discussed terms of intrinsic toponymy. Owen had prophesied in the '40s that substantive anatomical terms because of their helpfulness to teacher and pupil would surely come in. Pye Smith in 1877 spoke strongly in favor of simplicity and took almost the very ground which the committee of the Anatomical Association now recommends for adoption.

Oliver Wendell Holmes in a personal letter to Professor Wilder some years ago said he did not hope to see the reforms in his day. "It was hard to teach ancient canines new devices or old professors new tricks." He hoped, however, that the agitation would be continued until even "that capricious dame Science would consent to try on the new-fashioned garment."

Professor Wilder acknowledged that the continuance of the agitation is not pleasant, but the number of students in this department of science will in the future be so great that the present discussions and the unpleasantness they involve make it well worth the effort to simplify the subject for them. Spitzka has stated it as his opinion that half the labor of the anatomical student of nervous tissues will be saved by the introduction of the new terms.

As to the opposition to the contemplated reform, a good deal of it is due to "certain habits of uncritical imitation and unreasoning opposition to what appears new, because unfamiliar, which man shares with the other mammals." Wordsworth had summed it up in the well-known lines,

> "I do not like you Doctor Fell,
> The reason why I cannot tell
> I do not like you Doctor Fell."

A certain amount of opposition comes from the fact that the German Anatomical Society, utterly disregarding what has been done in England and America in the line of simplification, has adopted another nomenclature. The Germans claim to desire unity in the matter. Some married men say that man and woman are one, but the man is *the* one. It would seem that the German desire for oneness premised the proviso that the German should be *the* one. In any case it is to be remembered, with the present racial impulses at work, that what is English will eventually prevail. A certain condescension in foreigners had been noted long ago and we must simply go about our business for ourselves, assured that in this as in everything else all will come out right in the end.

The passage on the quasi-military despotism of General Usage and the similitude, comparing reform to the incoming tide, are so forceful that we reproduce them verbatim. The latter Professor Wilder quoted from an unknown source, as did Kipling the couplets that appeared at the head of certain of his short stories. We have been tempted to think that both writers could say more of the origin of their quotations if they wished:

"It has been urged that members of this association should defer to what is called General Usage. Of all so-called leaders the most incapable, blundering, and dangerous is *General* Usage. He stands for thoughtless imitation, the residuum of the ape in humanity, for senseless and indecorous fashions, the caprices of the demi-monde, for superstition and hysteria, the attributes of the mob, for slang, the language of the street hoodlum, and of his deliberate imitator the college sport, and finally in science for the larger part of the nomenclature of the brain.

"As scholarly anatomists it is at once our prerogative and our duty to scrutinize and reflect and to deal with the language of our science in the same spirit and with the same discrimination that we practise in regard to the facts and generalizations thereof.

"When the first little wave of the rising tide comes creeping up the shore the sun derides her, and the dry sand drinks her, and her frightened sisters pull her backward, and yet again she escapes, and still her expostulating sisters cling to her skirts, and the rabble of waves behind cry out against her boldness, and all the depths of the ocean seem to rise to drag her down, and now the second rank of waves who would have died of shame at being the first have unwillingly passed the earlier mark of the little wave that led them, and now you may float on in your ship for lo, the tide is full.

"So it is with all systems of reform. Though the pioneers be derided the great needs of humanity behind push on to triumphant acquisition of the new order of things."

DR. HOLMES, Demonstrator of Anatomy at the University of Pennsylvania, then read a paper on the defects in our present methods of teaching anatomy. He considers that the first defect to be remedied is the matter of preparation for the anatomical course before beginning the study of medicine; this preparation to consist not alone in a better general education but in a certain amount of special scientific training which every studen who intends taking up the study of medicine should have the opportunity to acquire during his last year or two as an undergraduate. The present method of teaching anatomy is especially defective because it gives too important a place in the curriculum to the didactic lecture. If there is any branch of medical work in which the merely didactic lecture is out of place it is in the study of anatomy. There are some who still insist on the influence upon the student's mind of the personality of the lecturer, and the magic of his voice to impress great principles and give a living grasp of the important points among the infinite details of the vast subject. If the human voice is so wonderful then Dr. Holmes suggests that a committee of the Anatomical Association, composed of our best teachers of anatomy be appointed to draft a set of lectures which the man possessed of the most finished style shall put into vigorous pellucid English, and the most eloquent, whose voice is warranted to keep the most dys-

peptic of students awake even after dinner, shall talk into a series of phonographs. Replicas of these phonograms shall be furnished to all the medical colleges and lo, we shall have an ideal didactic course in anatomy.

The practical study of applied anatomy is too important a matter to allow its advance to be hindered any longer by old time methods. Practically, all surgical mistakes, at least in the early years of practice, depend on the neglect to bring the study of applied anatomy up to the pedagogic standard that already exists for other sciences.

A. C. LANGMUIR read at a session of the American Chemical Society a paper of special interest on the determination of arsenic in glycerin. Mr. Langmuir considers that traces at least of arsenic are to be found in all glycerin. He attributes its constant presence not always to the employment of arsenic in its manufacture with consequent contamination of the product, but thinks that arsenic is to be found naturally in the fat from which glycerin is obtained. Animals consume a certain amount of arsenic, and this is deposited in the fat of their tissues to appear later on in products obtained therefrom. Most of the present methods of obtaining glycerin demand the use of arsenic but Mr. Langmuir has succeeded in demonstrating the presence of the poison even when none had been used by the manufacturers of the glycerin.

The paper led to a good deal of discussion, much of which showed a strong tendency to oppose the view that arsenic was deposited in animal fat, and that the contamination of the glycerin occurred in that way. Some years ago when for a time glycerin was lauded as a specific for most constitutional troubles that involved loss of weight, the results obtained from its use in large quantities were so contradictory in different parts of the medical world that the present discussion will be welcome should it help to clear up certain doubts as to the uniformity of its composition as made by different methods. As glycerin still occupies a not unimportant place in the Pharmacopœia the subject is of no little present interest.

PROFESSOR GERRISH of Portland, Me., spoke on the order of topics for the course in anatomy; the use of charts and blackboards and the relative value of didatic methods. The blackboard and sketching has been in Professor Gerrish's experience of much more value than the most elaborate charts. There is a living interest in seeing the parts sketched even imperfectly, that cannot be aroused by any mere chart, however well executed.

It is to be remembered, moreover, that a system of recitation is an important function of all proper teaching of anatomy. It impresses important points and leads to the correction of erroneous impressions. Examinations in anatomy should not consist merely of question and answer, the text-book supplying the information and a good memory being the only requisite to secure good marks, but the student should be placed before a dissected subject and asked to demonstrate instead of explaining.

PROFESSOR HUNTINGTON of the College of Physicians and Surgeons of New York City spoke on practical anatomy and how to teach it and on the order of topics. He considers that the teaching of practical anatomy requires the coordination of oral teaching with practical work. This demands the division of the class into sections so that each student shall get personal instruction. A competent staff of demonstrators must be provided for the dissecting-room, so that the anatomical material and the magnificent opportunities it affords for training in practical anatomy shall not be allowed to go to waste as has been the case too often in the past. As to the order of topics he considers that the viscera should be taught first and that there should be a coordination of the physiology and anatomy courses so as to secure the most effective results.

At the afternoon session Professor Huntington spoke on the morphology and phylogeny of the vertebrate ileocolic junction. He traced the cecum or its equivalent through all its evolutional phases, illustrating his remarks by stereoscopic slides of specimens from the various mammals. The hour's talk was an excellent example of the value of comparative anatomy in teaching human anatomy and furnished a sample of the illustrated didactic lecture, that medical men generally would not willingly see barred from the curriculum.

DR. MARTIN read a paper on the examination of the cecum and appendix in one hundred subjects, which will evidently lead to the modification of some at present accepted views as to the blood-supply and peritoneal attachments of the appendix.

PROFESSOR HUNTINGTON in the discussion of the paper called special attention to the fact that while Zuckerkandl had found obliteration of the lumen of the appendix in 50–60 per cent. of the cases examined by him, Martin had found it in a very small number of cases and those found had occurred only in subjects more than sixty years of age.

PROFESSOR DWIGHT of Harvard asked if any vascular connection had been found between the ovary and appendix in female subjects. Dr. Martin replied there had not. Professor Dwight said that personally he had always considered any vascular connection reported to have been found between these structures accidental, the result of pathological adhesions. The organs were developed from entirely different embryological elements and any vascular connection must be pathological and acquired.

DR. HAYNES of New York City gave an explanation of a new method of cutting gross sections of the cadaver with demonstrations of the technic. He is able after an injection of a four-per-cent. solution of formalin once and a two-per-cent. solution twice during the course of a week, to make complete sections in any direction of children's cadavers, so as to make specimens for the demonstration of visceral relations that are almost, if not quite, equal to frozen sections for teaching purposes, yet are made practically with but a tithe of the labor and care required by the old method.

A New York Hospital Changes Its Name.—It is officially announced that the New York Cancer Hospital will hereafter be known as the General Memorial Hospital.

CORRESPONDENCE.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

GOVERNOR HASTINGS' ANNUAL MESSAGE — AN AGE LIMIT FOR TEACHERS—THE SAMARITAN HOSPITAL ENTERTAINMENT—ANNUAL ELECTION OF THE COLLEGE OF PHYSICIANS—SOME RECENT HOSPITAL BEQUESTS — PERSONAL NOTES—OBITUARY — HEALTH STATISTICS.

PHILADELPHIA, January 10, 1899.

GOVERNOR HASTINGS' message, which was sent to the Legislature last Tuesday, contains some excellent suggestions. He calls attention, among other things, to the wretched overcrowding of the State hospitals and advocates the county's care of its own indigent insane, a plan which has been in operation since May, 1897. He also urges the need of separate hospital care for epileptics and favors the adoption of a plan similar to that in existence in New York and some other States. The Governor states that there is one epileptic in every thousand persons in Pennsylvania.

An insane hospital, erected within the guard-walls of the State's penitentiaries, is recommended for the care of insane convicts of whom there are about 200 in the State. Attention is again drawn to the filthy condition of many streams of the State which are alike used for drinking purposes and for sewers. The message is an excellent exposition on sanitary matters relating to the State and though the Legislature will probably pay the usual scant attention to additional State necessities, water in time wears away rock, repeated drilling in time may pierce legislative skulls.

It is to be regretted that a system such as prevails in German universities, of retiring teachers after a certain age limit, does not obtain in this country. This is forcibly brought to mind by the fact that no less than two of our local medical schools are seriously handicapped by having upon their teaching force men, who, while brilliant and able in their day, are far from being able to satisfactorily fill the positions they still continue to occupy. An institution burdened in this way is helpless for the elections are made for life, and not realizing their decay, these veterans still remain monuments of a past glory and obstacles to further advancement. But one way, and that a clumsy one, remains to shelve a worn-out teacher, namely, by making his position emeritus. That this is frequently combatted vigorously is shown by the failure of a recent attempt to do this, the prospective recipient declining the position with tears of gratitude for the proposed honor! Fools step in where angels fear to tread and constantly dwindling clinics may be less delicate, but equally effective as hints from friends and fellow-teachers.

The Samaritan Hospital has been placed in an unenviable position by reason of a collector who was employed to manage an entertainment to be given by the hospital. At a meeting of the Board of Trustees, held on Saturday, it was determined to refund all money collected as the collector was taking fifty per cent. of all donations made, while the trustees' understanding was that fifty per cent. of the gross receipts of the entertainment should be received by him to defray the cost of renting the Academy of Music and other expenses incident to the occasion. About $1000 was donated upon which the superintendent allowed the collector fifty per cent. under the impression that the money came from an advance sale of tickets. The proposed entertainment has been abandoned.

January 2d the annual election of the officers of the College of Physicians took place, resulting as follows: President, Dr. John Ashhurst, Jr. (reelected); vice-president, Dr. William W. Keen (reelected); treasurer, Dr. Richard H. Harte; secretary, Dr. Thomas Neilson; honorary librarian, Dr. Frederick P. Henry; librarian, Charles Fischer. Two new councillors were elected, Drs. Henry R. Wharton and Morris J. Lewis, the others remaining unchanged with the exception of Drs. Packard and Dulles, whose terms had expired. The censors are Drs. Alfred Stillé, William F. Norris, Arthur V. Meigs, and Richard A. Cleeman. Library, hall, and other committees were appointed with but few changes in the present members.

The Training School for Feeble-minded Children at Elwyn has been left $2500 by the will of the late Francis M. Brooke. The income of the money is to be used for the entertainment of the children.

Judge Mayer Sulzberger and the co-executors of Simon Muhr's estate have just made a third distribution of the money left by him to charity. The total amount is $42,000 which, with the $126,000 already divided, makes a total of $168,000, with the likelihood that a fourth distribution will be made in the near future. Among the institutions which received this last instalment are: The Jewish Hospital Association of Philadelphia, $7000; the Pennsylvania Hospital, $1400; the Jefferson Medical College Hospital, $1400; the Hahnemann Homeopathic Hospital, $700: the Philadelphia Polyclinic Hospital, $700; the Philadelphia Lying-in Charity, $560: the Women's Hospital of Philadelphia, $560; the Children's Hospital of Philadelphia, $560. In addition to these sums every home for old people and children, every sanitarium association, day nursery, etc., received sums varying from $260 to $1500.

Another generous gift of last week was that of Peter A. Schemm, who, with his mother, gave $5000 for the maintenance of a free bed in the German Hospital in memory of the late Peter Schemm.

By the will of L. Taylor Dickson, who died recently, his entire estate amounting to about $100,000 is to revert to the Pennsylvania Hospital upon the death of the five beneficiaries to whom it is left in trust during their lives.

Dr. Florence Watson, Pathologist to the State Hospital for the Insane at Norristown, has resigned on account of ill health and Dr. Edith Barker of the Delaware Insane Hospital will, in all probability, be elected to fill the position thus made vacant.

Dr. B. Franklin Stahl has been appointed Lecturer on Dietetics at the University of Pennsylvania and Dr. Thomas S. Kirkbride, Jr., has been appointed Director of the Laboratories of the Philadelphia Polyclinic. The

laboratories are to be thoroughly reorganized and an effort will be made to bring this class of work at the Polyclinic into more prominence.

Drs. Emil Hertel, D. I. McCalley, Thomas D. Cook, and George Steinicken have been appointed vaccine physicians by the City Council of Wilmington. The Berks County Prison Inspectors have elected Dr. S. T. Schmell as physician to that institution.

William Potter, ex-Minister to Italy and President of the Board of Trustees of Jefferson Medical College, is said to be President McKinley's selection for the post of Ambassador to Russia.

Dr. Charles C. Lange, a graduate of the University of Pennsylvania, died suddenly at his home in Pittsburg, on January 3d, aged fifty-six. Dr. Louis A. Livingood, a graduate of Jefferson Medical College, died at Womelsdorf, January 6th, aged 68.

The total number of deaths occurring in Philadelphia during the week ending January 7th, as reported at the health office, was 713, of which number 185 occurred in children under five years of age. The total number of new cases of contagious diseases was 307, reported as follows: Diphtheria, 95 cases with 23 deaths; scarlet fever, 32 cases with 5 deaths; typhoid fever, 180 cases with 24 deaths.

MEDICAL MATTERS IN CHICAGO.

[From Our Special Correspondent.]

SYMPTOMS AND DIAGNOSIS OF MOVABLE KIDNEY—SURGICAL TREATMENT OF MOVABLE KIDNEY—EDITORSHIP OF THE "JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION"—SUPERINTENDENT OF ELGIN ASYLUM—ANNUAL REPORT OF COUNTY PHYSICIAN—IMPROVEMENTS IN COOK COUNTY HOSPITAL—HEALTH STATISTICS OF CHICAGO DURING THE PAST YEAR—NEBULIZATION IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

CHICAGO, January 9, 1899.

AT the December, 1898, meeting of the Chicago Gynecological Society, Dr. H. B. Stehman dwelt upon the symptoms and diagnosis of movable kidney. In considering the subject of differentiation, he said there are several anatomic and pathologic facts, which, if kept in mind, will help one materially: (1) The post-peritoneal position of the kidney as compared with the liver, spleen, gall-bladder, and various cysts and growths within the abdominal cavity, which can be easily demonstrated by combining percussion with inflation of the bowel. (2) The reniform shape of the kidney in comparison with the characteristic shape and feel of the spleen, liver, gall bladder, etc. (3) The immobility of the displaced kidney during inspiration and expiration, as compared with the descent and ascent of the spleen and liver and growths connected with them during respiration. (4) The pulsation of the renal artery, which, if felt at all, will always be recognized as part of the pedicle, for it must be remembered that the range of motion of the kidney is determined by the vessels, nerves, and ureter. (5) The ease with which the organ can frequently be moved from place to place and restored to its normal position in comparison with organs or growths whose positions are fixed. (6) Tenderness on pressure and the sickening sensation which is produced by compressing the organ between the two hands.

In ovarian cyst the development of the tumor and recognition of its origin may be determined by vaginal examination. In echinococcus cyst, that is, pedunculated, differentiation may be quite difficult, unless a hydatid fremitus can be felt; otherwise recourse can be had to aspiration. In fecal impaction, copious enemata with the liberal exhibition of cathartics will rarely fail to clear up the diagnosis; and if the coprostatic mass envelops the kidney, by dislodging the same the bean-like form of the organ will stand out in plain relief. It should constantly be borne in mind that excluding the symptom of pain, the movable kidney has little in common with ordinary inflammation, and thus in the presence of the characteristic symptoms of appendicitis or the edema, redness, tenderness upon pressure, with probable fluctuation of a perinephritic abscess, the physician should hardly fall into the error of confounding either of the two with displacement of the kidney.

At the same meeting, Dr. L. L. McArthur read a paper on the surgical treatment of movable kidney. He believes he has made a step in advance toward the ideal by a procedure with which all perforating sutures of the kidney parenchyma may be abandoned while supplying a fair substitute for the folds of peritoneum and transversalis fascia which normally hold the kidney in place. He has satisfactorily accomplished it in this manner: (1) A curved transverse incision below the last rib is made anteriorly through all the structures down to the peritoneum. (2) The peritoneum is then by blunt dissection loosened from lateral parietes sufficiently to permit boldly enlarging the posterior angle of the wound without fear of injury to important structures quite back to the quadratus. (3) The fatty capsule of the kidney is loosened by blunt dissection. (4) The anterior layer of the lumbar fascia is then loosened from the tissues on which it lies to such an extent as will admit the kidney in the pocket thus made. The lower flap of the wound now has a compartment for the lower half of the kidney. (5) Prior to inserting the kidney in the new compartment, two or three stitches are inserted into the cut edges of the transversalis aponeurosis, which serve to pucker the pocket containing the kidney. (6) The kidney having been dislocated first upward, its lower end is slid into the pocket. (7) Closure now of the stitches in the aponeurosis of the transversalis fixes the lower half of the kidney external to one of the layers of the abdominal parietes, supporting the same by so broad a surface that no injury to the kidney can result, and no displacement can occur. Dr. McArthur has found the pocket for the lower half of the kidney sufficient, and suggests its use in the movable cases, where a very complete arrest of its wanderings can be secured; two or three stitches can be made to hold the kidney until adhesions form. By this arrangement, too, the movements of the other abdominal organs cannot dislodge the kidney in question, it being external to one of the layers of the abdominal wall,

pressure from above tending to drive it deeper into the pocket thus formed.

A call was issued for a meeting of the Board of Trustees of the American Medical Association shortly after the death of Dr. John B. Hamilton, with a view to selecting an editor for the journal. Accordingly, the board held a conference January 3d. Numerous candidates for the editorship are springing up all over the country, Chicago having 5, Philadelphia 3, Cincinnati 1, New York 1, and St. Louis 1. It is said that the members of the board have been literally besieged with letters and telegrams extolling the virtues and abilities of certain candidates and pointing out the weaknesses of others. One or two out-of-town members of the board, fearing they would be pestered with visits from wire-pullers, stopped at a certain hotel in this city without registering. After discussing freely the qualifications of the various candidates, the board adjourned without selecting an editor. At its February meeting it will reconsider the matter. Dr. Truman W. Miller, a Chicago trustee, is at present acting as supervising editor of the journal at the request of the board.

No one has received as yet the appointment of Professor of the Principles of Surgery and of Clinical Surgery in Rush Medical College, a vacancy caused by the death of Dr, Hamilton. It is thought that either Dr. D. W. Graham or Dr. Arthur D. Bevan will secure the position. The latter is now Professor of Anatomy in Rush Medical College. Dr. Graham is at present conducting Dr. Hamilton's surgical clinic.

Dr. F. S. Whitman of Belvidere, Illinois, has been appointed to succeed the late Dr. Hamilton as Superintendent of the Elgin Asylum for the Insane.

Dr. E. C. Fortner, the County Physician, in his annual report points out the need in Chicago of a hospital for the treatment of alcoholic cases. At the Detention Hospital, where these cases are now treated, during the past year 501 women and 772 men, alleged to be insane, were tried. The court discharged 246, sent 600 to Dunning, 130 to Elgin, and 260 to the Kankakee Insane Ayslums, and 11 died.

During the past year the Warden of the Cook County Hospital, Mr. Graham, made a number of improvements. The new receiving ward was opened and put in service. It is fitted with every modern convenience and equipped with the best apparatus. The important feature among the improvements is the elaborate sterilizing plant with which the new operating-rooms have been equipped. The total appropriation for the hospital was $245,248. Of this $140,000 was expended for maintenance and supplies, and $105,248 for salaries. The number of patients admitted during the year 1898 was 18,283. The average cost per patient was 72.7 cents a day. The total number of employes was 225.

The daily average number of patients at the Dunning Asylum for the year 1898, was 1357; at the Infirmary, 1312, making a total daily population of 2669. The cost of maintenance of the patients, without counting in the salaries of employes, is 18 cents a day; adding the cost of salaries the daily average expense is 28½ cents per capita. Out of a total appropriation of $337,161 for the year, $276,420 was expended, making a saving of $60,740.

The City of Chicago has maintained its remarkable record for healthiness during the year. Notwithstanding the ominous appearance of two epidemic diseases much dreaded by sanitarians and health officers, namely, influenza and cerebrospinal meningitis, both during the first five months, the Commissioner of Health reports that the total deaths during 1898 were less than 1000 more than those of the previous year, when the mortality-rate was the lowest ever recorded for any city of more than half a million population. During the year the Municipal Laboratory, the work of which has come to be generally recognized as the backbone of effective sanitary administration, has been moved into more commodious quarters, its equipment largely increased, and its facilities improved in every respect. With this change and improvement has come a more than corresponding increase in the volume and variety of the work performed. Demands from the public for its skilled examinations of food-products and for its new and unobjectionable methods of disinfection, and especially from physicians for assistance in the recognition and control of the contagious and infectious diseases, are steadily increasing. All this has been made possible by the wisdom and foresight of the City Council for the maintenance and extension of the work.

Among the improvements effected during the year in the different branches of the Health Department may be noted the supervision of the cemeteries and undertakers as to burials, and of certificates of death as to causes, whereby it is made more certain, on the one hand, that no unauthorized burial or removal of a dead body may take place, and, on the other hand, that the true cause of death shall be reported in all cases. This rigid supervision has added greatly to the value of the vital statistics of the department.

The results of other improvements steadily pushed during the year are to be seen in the reduction in the deaths from contagious diseases generally, due to supervision of contagious disease funerals and other measures enforced to prevent the spread of such diseases; in the lowest actual number of deaths from diphtheria in any year since 1884, and the lowest death-rate of this disease among the patients treated by the department physicians, ever recorded in any community; in the lowest summer death-rate on record among infants and young children; in the more active cooperation of members of the medical profession with the department, and in the increasing confidence in the efforts of the department, encouraged and supported by the civic administration in all its branches, to safeguard effectively the interests of life and health in the community.

At a meeting of the Chicago Medical Society, held January 4, 1899, Dr. Homer M. Thomas read a paper on "The Mechanism of Nebulization in the Treatment of Pulmonary Tuberculosis."

He referred to the general interest which is taken in the subject of nebulization at the present time, and particularly its application to the treatment of pulmonary

troubles. Nebulization is one of the oldest propositions in treatment known to medicine. It traces back to the time of Hippocrates, who was the first to devise an apparatus for the purpose of inhalation. The evolution of nebulization has been greatly enhanced by the production of an oily menstruum, particularly the oils of the coal-tar products, which, as vehicles, may be used in combination with the stronger basic oils for inhalation. A difficulty which has appeared to lie in the direction of this treatment has been in the imperfect construction, and hence inefficient action, of various nebulizing instruments. Dr. Thomas described in detail a nebulizer which he has devised for his own use, and which has proved eminently satisfactory.

The latest addition to facilities in Cook County for treating disease has been the erection of a consumptive hospital at Dunning, which is devoted exclusively to the care and treatment of tubercular patients. One of the measures used in treatment is nebulization of the essential oils, as oil of cinnamon, oil of wintergreen, oil of pine needles, Merck's oil of cloves, oil of eucalyptol, beechwood creosote, and thymol. The compressed-air mechanism in the new hospital is probably the most complete in this part of the country. Extreme care has been used in providing absolutely pure air for the application of this treatment there. The air first enters the building from the highest ridge of the roof; it is filtered through three screens of increasing fineness; it passes into an antiseptic chamber, and then into a water bath, the water of which is filtered and chemically pure, and the water drops down through the compressed air as it passes through for the purpose of separating from it any possible impurities that may have escaped the former methods of purification and antisepsis. It is then carried from the water bath into a large tank of 150 gallons capacity, is stored at a pressure of 45 to 50 pounds to the square inch, it passes through another antiseptic chamber, and is then ready to be piped throughout the building. The capacity of the hospital is about 380 patients and with the present piping arrangement it will be possible to nebulize at the bedside probably 50 or 60 patients' special nebulæ as may seem needed for each case. In addition, there are rooms large enough to accommodate 10 or 15 patients at a time in which the air is supersaturated with antiseptic nebulæ. In these rooms the patients gather for from fifteen minutes to thirty or forty, and breathe this highly charged antiseptic air. By this means it is hoped, with the very efficient mechanical appliances there in operation, to greatly assist in the amelioration and possible extinction of pulmonary tuberculosis.

In the discussion on Dr. Thomas' paper, Dr. George W. Johnson stated that from June 1, 1897, to October 1, 1897, he persistently treated 260 tuberculous patients by the inhalation of vaporized oils, such as beechwood creosote, oil of cloves, and eucalyptol, using albolene as a vehicle. These oils were vaporized by compressed air (hydrostatic) of from 15 to 25 pounds pressure per square inch. The vapors were respired from a mask fitting tightly over the face and for a period of fifteen minutes each morning and evening. While inhaling the vapor the patients were required to breathe as deeply as possible and about the normal number of respirations per minute. From these 260 patients a careful clinical record of 40 cases was kept on such points as quantity and character of sputa, microscopic examination, temperature, pulse, respiration, cough, night-sweats, physical examination, and body weight. A study of this clinical record for four months showed good results. In each case the weekly examination of the sputa showed a marked diminution in the number of pus-cocci, but no appreciable diminution in the number of tubercle bacilli. The sputum was diminished in quantity, the cough greatly allayed, the body weight increased, with marked relief from night-sweats and dyspnea. The patients took kindly to the treatment. From October 1, 1897, to October 1, 1898, he had admitted to his tubercular ward 333 patients. Of this number 236 were given the vapor treatment persistently and 118 were so much improved that they left the institution to seek employment. He is of the opinion that inhalation therapy has a bright future.

OUR LONDON LETTER.

[From Our Special Correspondent.]

CHARACTERISTIC TRAITS OF THE LATE SIR WILLIAM JENNER—A SET-BACK FOR THE CHRISTIAN SCIENTISTS—A POWERFUL ALLY FOR THE VEGETARIANS—RADICAL TREATMENT OF HERNIA IN THE BRITISH ARMY.

LONDON, December 31, 1898.

THE death of Sir William Jenner is the principal subject of interest among the profession here at present. It was in no sense a surprise as he withdrew from all practice on account of failing health nearly nine years ago, at the age of seventy-four. In the eye of the public his principal distinction lay in the length and importance of his services as Court Physician for the term of no less than 32 years. He attended the Prince Consort in his last illness and the Prince of Wales in what very nearly proved to be his, in 1872. For days the royal patient hovered between life and death and so constant and assiduous were the attentions of his physicians, that he was popularly believed to have been saved only by one of them breathing into his mouth for several hours! Curiously enough the disease in both father and son was typhoid fever. Not only had Jenner the absolute confidence and warm regard of his illustrious patients (Her Majesty was pleased to allude to him in the last Court Circular as "not merely a most skilful physician, but a true and devoted friend," considered here a wonderful piece of condescension to a mere medical man) but of the profession as well. In fact, the best thing about his long tenancy at this distinguished position was that it was not due in any way to self-seeking, ambitious scheming or subserviency of any sort. Upon one occasion the Queen foolishly wrote to him expressing her deep regret that one with whom she was so intimately connected should have publicly upheld and endorsed the cruel practice of vivisection. Jenner promptly replied that he was sorry to pain Her Majesty by incurring her disapproval, but that he

felt under obligation to follow his own best judgment and conscience in such matters and if she felt in any way dissatisfied, his resignation was before her for action at any time. The matter was dropped at once and no further intimations of the sort were attempted again.

To the profession Jenner was best known by his splendid work as a teacher in the Chair of Principles and Practice of Medicine in University College, which influenced such men as Lord Lister, Sir Russell Reynolds, Sir William Roberts and Michael Foster, all of whom were among his pupils. His memory will live chiefly in his classic monograph differentiating typhus from typhoid. He was very proud of his descent from the same family as the great discoverer of vaccination.

Another decision has just been rendered which is of much importance in its bearing upon both Faith-Healing and Christian Science. It was given by no less an authority than the Lord Chief-Justice himself upon an appeal from the decision of a lower court. The plaintiff, a member of the sect known as "Peculiar People," had permitted his five-months' old child to die of bronchitis without summoning medical aid. He had followed scriptural injunction and had the child anointed with oil and prayed over by the elders of his church, also hiring a nurse to attend it. His counsel claimed that having done everything which he conscientiously believed to be necessary, he could not be held guilty of neglect. The Chief-Justice gave judgment at once upon the agreed statement of fact without calling for argument from the prosecution. He held that no matter what the father might have done or how devoted in other respects he might be shown, if he had deliberately failed to do the one thing which the unanimous experience of the race had shown to be of greatest value and importance in such circumstances, he was guilty of wilful and criminal neglect. As for the plea of religious or conscientious scruples (and here the decision is of special interest from the fact that Lord Russell is a devout Catholic), that, however valid in morals or theology, could not be entertained for a moment in a court of law, as otherwise the door would be opened for the gravest and most serious abuses. Nothing but absolute physical inability could excuse any man in the eye of the law for failure to use every common and well-attested means for the protection of the lives of those under his care.

The finding of the lower court was therefore sustained and the prisoner was taken back and next day sentenced to four-months' hard labor. It is to be hoped that this authoritative decision will govern the action of all judges before whom such cases are brought in future instead of the flabby invertebrate policy which has hitherto been pursued.

Dr. Alexander Haig's new book on "Diet and Food" ought to bring as much consolation to the vegetarian crusaders as it brings dismay to his friends. Not content with a moderate application of his really most ingenious and interesting theories and experiments upon the uric-acid factor in disease, he has overleaped all bounds of discretion and now attributes almost every evil that the flesh is heir to, moral as well as physical, to this baneful excretion. Suicide is more common in men than in women, because the former eat more meat! The gentler sex come in for their share of disaster in that chlorosis is due to the same dietetic vice. He even goes so far as to declare that "In diet lies the key to nine-tenths of all the social and political problems of our time." Truly uric acid is the root of all evil. Holding rigidly to his childishly inadequate and unchemical theory that the only source of uric acid in excess, in the body, is that actually taken in in the food, he naturally taboos every food-substance containing it in any considerable quantity; and falls at once into the vegetarian camp.

Even here, however, he cannot rest easy, but lays about him right and left because the vegetarian although avoiding the chief source of ready-made uric acid, still indulges in eggs which are bursting with it, and coffee and tea which consist almost exclusively of it in the easily convertible form of caffein.

Like most men who experiment chiefly upon themselves he has become almost hysterical in his extremeness. At this rate we shall soon be as purely and peaceably vegetarian as sheep and about as interesting.

The last Harveian lecture was delivered last week by Dr. William Ewart upon "Medical Education and Medical Practice: Their Pressures and Their Prospects." He paid a high compliment to America for her progressiveness in recognizing the value of clinical laboratories and for the high standard of public opinion in the prompt recognition and early treatment and avoidance of disease. The most serious problem approached by him was that of contract medical practice or clubs which not only guarantee to their members all professional services required for the disgraceful subscription of *eighty-seven cents* per annum but also employ agents to canvass for members and thus attack the poor doctors' remaining private patients. In some districts nearly two-thirds of the population belong to such clubs and practitioners all over the country are finding the situation a most serious one. Bht as yet no adequate remedy seems to have been devised.

The radical operation for hernia has just been recognized by the Army authorities and a circular issued urging all enlisted men with rupture now in the service, which are considered suitable for operation by their regimental surgeon, to repair to certain specified military hospitals where surgical experts have been detailed to perform it. In future no soldier will be invalided permanently for hernia, unless this operation has been tried or is judged inadmissible.

At the last meeting of the Medico-Chirurgical Society an elaborate paper was presented upon "An Improved Method of Treatment of Separation of the Lower Epiphysis of the Femur" by Jonathan Hutchinson, Jr., and H. L. Barnard. The authors had been fortunate enough to have the care of four cases of this rare fracture, in all of which the method gave excellent results. The difficulty in these cases has always been, first, in reducing the fracture and, second, in keeping the fragments in place on any ordinary splint. Out of thirty cases collected only six patients recovered with a useful limb.

The new method solves both difficulties by completely flexing the joint, when the fragments slip readily into place, and then retaining it so by bandaging the leg to the thigh for ten days or two weeks. By this time fair union will have occurred and the limb can be placed upon a Macintyre splint and gradually straightened with the screw-threads. This curious position is said to be well borne by the patient. Skiagraphs were shown of all the cases treated both before treatment, showing clearly the position of fragments, epiphysis forward, shaft backward, and after the excellent results of the method.

An ingenious representative of the *Lancet* is securing some interesting information upon the abortion question "from the inside" by writing to the advertisers of abortifacients and representing himself as a pregnant woman, and ordering supplies of their remedies. If they advise stronger preparations at higher prices, as they usually do, he again "bites" and purchases, and then analyzes all the stuff sent him. The composition ranges so far all the way from dangerous savin oil to innocent rue and senna tea in quart bottles.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

MISTAKING TUBERCULOUS PERITONITIS FOR ACUTE INTESTINAL OBSTRUCTION—CEREBELLAR ABSCESSES FOLLOWING MASTOID DISEASE—ORIGIN OF LIPOMATA—DIAGNOSIS OF ACTINOMYCOSIS—PNEUMONIA WITH MULTIPLE FOCI—BILIOUS FEVER WITH HEMOGLOBINURIA—GLYCOSURIA IN PREGNANCY—SERUM DIAGNOSIS OF GASTRO-INTESTINAL CATARRH—SERUM DIAGNOSIS OF TUBERCULOSIS—CURE OF KELOID BY INJECTIONS OF CREOSOTE OIL.

AT the Surgical Society, November 23d, QUENU spoke of the possibility of mistaking tubercular peritonitis for acute intestinal obstruction or for appendicitis. One patient, a woman from whom he had removed both tubes and ovaries for tuberculosis, developed such sudden symptoms of stoppage of the bowels that he thought the small intestine was obstructed by an adhesion. Laparotomy showed that there were no adhesions, but that the peritoneum was thickly studded with minute tubercles. The operation was terminated, and the symptoms of obstruction vanished but the patient died soon afterward from extension of the tuberculosis. In another case obstructive symptoms came on suddenly in a little girl, the pain being referred to the right iliac fossa, so that the diagnosis of appendicitis was made. The usual incision for that trouble permitted the escape of some fluid and showed the peritoneum to be tubercular. This patient died two days later with symptoms of meningitis.

BRUM said that he had twice operated upon children having tuberculous peritonitis, under the supposition that they were suffering from acute appendicitis. Both patients recovered their health.

POTHERAT, BROCA and TUFFIER mentioned similar instances in which the diagnosis between acute intestinal obstruction and tuberculous peritonitis was made, either with difficulty or not until operation. In one of BROCA'S patients there was present obstruction by a band, as well as tubercular lesions. Appendicitis in another patient was mistaken for tuberculosis until it was too late. Most of the mistakes in diagnosis occurred in young children.

At the session of November 30th, QUENU spoke of two cases of non-union of fractured bones, in which union was secured after the administration of thyroidin. One of these patients was myxedematous after thyroidectomy.

RECLUS used thyroidin with success in a case of non union of six-months' duration, but it failed in his hands in two other cases.

PICQUE reported a case of cerebellar abscess following mastoid trouble in a child four years of age. He classified such abscesses as antero-internal, antero-external, and postero-internal. The last is much the rarest form of the three. They are best attacked by a temporo-occipital craniectomy which exposes the abscess in no matter which of the three situations, while the partial mastoid resection of Wheeler, or the total mastoid resection of Mignon, often give insufficient opportunity to get at the abscesses in the anterior situations, and fail utterly when the pus is situated in the posterior regions.

GUINARD and BROCA expressed a preference for the mastoid route, unless a diagnosis of posterior cerebellar abscess could be definitely made out before operation.

At the session of December 14th, TUFFIER showed a specimen which he had removed from beneath the clavicle of a woman aged twenty-seven years, where it had been growing six years. Besides the fatty lobules there were in it, calcified portions which examination showed to be due to an affection of a lymphatic gland. The specimen seemed to afford evidence in support of the recently advanced theory, that lipomata are due to inflammation of lymphatic glands, a true lipomatous periadenitis.

DELBET mentioned the occurrence of lipomatosis about lymphatic glands in such a manner that each gland was encircled by a thick layer of fatty tissue. Fat tissue develops similarly in the abdomen about the kidneys, bladder, rectum, etc., but such fat cannot be differentiated from true lipomata, and under conditions which waste the general tissues of the body, it holds its own, acting in this respect the part of a tumor. These perivisceral lipomata are probably of inflammatory origin, as are many lipomata which are found upon artisans at points where they are subjected to repeated contusions. There is, however, another distinct group of lipomata, which are congenital in origin, and often associated with angiomata. The term adenolipoma is an unfortunate one, since it suggests an adenoma rather than an inflammation of a gland, and it is better to use the term lipoma of inflammatory origin. The perivisceral fat tissue may be less definitely encapsulated and of greater fibrous consistence than the tissue of the common lipomata, but these distinctions are variable ones, for lipomata of all grades of encapsulation and firmness occur.

LEJARS thought that there is a great difference between the ordinary lipomata and symmetrical lipomatoses which in their growth can assume a certain degree of malignancy.

PONCET said that the diagnosis of actinomycosis can

be readily made from the clinical characteristics, and that one ought not to depend on microscopical diagnosis alone, for many times it is difficult to find the characteristic fungi, and if the microscopical diagnosis alone is considered, many cases of undoubted actinomycosis will be allowed to slip away unnoticed. His experience led him to believe that the disease is far commoner than is generally understood.

At the Medical Society of the Hospitals, November 25th, DUFLOCQ described a case of pneumonia with multiple foci, there being no less than nine of these in the lungs, and five in the rest of the body as follows: a suppurative arthritis of the right shoulder, a prelaryngeal abscess, an inflammation of the inguinal and crural glands, a suppurative psoritis, and finally, a meningitis. Pneumococci were demonstrated in these various foci, and were also found during life in the blood.

At the session of December 2d, VINCENT read a paper on the etiology of bilious fever with hemoglobinuria. Most writers assume that hemoglobinuria is due to malaria. In five cases which had recently come under his notice he had never been able to find any organisms in the blood except in one instance when an ameba was present. The patients had an intense fever with jaundice and bilious vomiting. Moreover, sulphate of quinin is useless in such cases. Two of the five patients referred to died, and three recovered. In paroxsymal hemoglobinuria, so-called, the occurrence of a chill is often said to produce the hemoglobinuria; but in the disease under discussion, such did not seem to be case. Koch and others have asserted that the condition can be produced by the quinin which has been taken to ward off or to cure malaria; but this view does not seem to be well founded. The clinical character of the affection, and the epidemicity which it sometimes manifests, leads one rather to the opinion that it is of an infectious nature.

At the Biological Society, November 26th, BROCARD spoke of the glycosuria of pregnant women, of whom he had examined 125, finding that sugar existed in the urine of sixty of them, that is to say, in about fifty per cent. of the cases. The presence or absence of sugar was variable, being influenced by the diet, the time of day when the water was passed, etc. Glucose and lactose were the sugars usually found, saccharose and levulose being present only occasionally. In many instances in which no sugar was found in the urine, it would appear if the patient took 50 to 100 grams (1.5 to 3 ounces) of sugar. Why should the ingestion of this small amount of sugar give rise to glycosuria? An attempt has been made to explain this fact by saying that the hepatic action was insufficient, but glycosuria occurs in women whose livers are acting perfectly as far as one can observe. The glycosuria of pregnancy is rather to be attributed to a disturbance of the general nutrition.

NOBECOURT reported experiments made to determine in attacks of gastro-intestinal trouble in infants due to the colon bacillus, whether or not there is a specially virulent colon bacillus which is the cause of the inflammation. He found it impossible to settle this question by methods of agglutination, since the serum of patients who had virulent coli bacilli in their stools, failed utterly to agglutinate these bacilli, while the serum of those patients whose stools contained non-virulent coli bacilli frequently exerted a weak agglutination upon such bacilli. In other words there is no such thing as a serum diagnosis of gastro-intestinal infections. Experimental serums, obtained after inoculations with the same virulent coli bacilli, had an agglutinative power, each for its own colon bacillus, but not for others equally virulent, obtained from the diarrheic stools of other infants in the same locality and place, so that it is equally impossible to speak of a special sort of colon bacillus which is responsible for gastro-intestinal affections of infants.

WIDAL said that the serum reaction for coli bacilli in man does not possess the value which that for typhoid bacilli possesses, because the different specimens of coli bacilli obtained from sick or healthy individuals, in spite of their similarities, are, nevertheless, distinct. The clinical results are quite in accord with this statement. It was at first reported that a serum diagnosis was possible in four-fifths of the cases of gastro-intestinal catarrh, but more careful investigation has shown this to be much overstated. The speaker agreed with Nobecourt that there is no special kind of colon bacillus which produces gastro-intestinal infection, and that the serum diagnosis of cases of this disease is worthless.

December 10th, MONGOUR and BUARD stated that a sharp agglutination was caused by the serum of four patients suffering from serous and hemorrhagic pleurisy, undoubtedly tuberculous, as well as by the serum of nine phthisical patients. Twenty other patients ill with various maladies (epilepsy, rheumatism, bronchitis, scarlatina, typhoid fever, etc.) were subjected to examination by the serum method, and a positive result led to the discovery of latent foci of tuberculosis in them which had not before been suspected. The greater the resisting power of the patient, and the less his cachexia, the more sharp was the agglutinative reaction.

At the Society of Dermatology and Syphilography, December 8th, BALZER described the result of injections of oil containing 20 per cent. of creosote for the cure of keloid in a girl aged sixteen years. The child was of a strumous diathesis and her brother had died of tuberculosis. She had two keloids, presumably tubercular, recurrent in the scar following the removal of a tumor, probably lupus. One c. c. (15 drops) was injected, several punctures being made. Owing to the density of the tissue some of the fluid exuded. The pain was slight, but the inflammatory reaction the following day was severe, and was followed by the disappearance of a considerable portion of the growth. The ulcers which formed healed readily. After four treatments the smaller of the keloids had disappeared entirely, while the larger persisted after nine injections, although greatly reduced in size.

REVIEWS.

THE HYGIENE OF THE VOICE. By THOS. F. RUMBOLD, M.D. St. Louis: Witt Publishing Co., 1898.

THIS little monograph was evidently written for sing-

ers and, probably, to some extent, for physicians. Besides enumerating a number of annoying functional and organic troubles that may afflict speakers and singers, the author presents a horrible picture of the effect of tobacco upon the respiratory mucous membranes, devoting one paragraph to show how smokers may be detected after death. The bookmaking is something to shudder at.

A COMPEND OF DISEASES OF THE SKIN. By JAY F. SCHAMBERG, A.B., M.D. Philadelphia: P. Blakiston's Son & Co., 1898.

THIS little work, which constitutes the dermatological volume in the publisher's series of Quiz-Compends, will undoubtedly prove one of the most valuable of the series. The subject of dermatology is so much neglected at our schools, and its presentation to the student, moreover, rendered so difficult and complex that the undergraduate will surely welcome the admirably clear and concise synopsis here presented.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. By JOHN B. SHOEMAKER, M.D., LL.D. Third edition. New York: D. Appleton & Co., 1898.

THE third edition of Dr. Shoemaker's well-known textbook constitutes a welcome addition to the works on dermatology. The previous editions of the book are so well known to the profession and have been so favorably received that any words of commendation would appear superfluous. The work is particularly rich in formulas for the internal and external treatment of skin diseases and will be valued especially by all those who share the author's therapeutic enthusiasm. Paper, presswork, and typography are of a high standard of excellence.

TRAITE DE MEDECINE ET DE THERAPEUTIQUE. Publie sous la direction de MM. P. BROUARDEL et A. GILBERT. Tome cinquième. Paris: J. B. Baillière et Fils.

THE fifteenth volume of this system embraces the diseases of the salivary glands, of the pancreas, of the liver, the spleen, the kidneys, and of the male and female generative organs. The widely known views of the French school on therapeutics and pathology are found emphasized, although credit is given to German investigators and clinicians. The chapters on gynecology are wofully deficient, while those on diseases of the other abdominal organs are fully and thoroughly treated. The work is one for reference only.

THE CARE OF THE BABY. A Manual for Mothers and Nurses. By J. P. CROZER GRIFFITH, M.D., Clinical Professor of Diseases of Children, University of Pennsylvania. Second edition. Philadelphia: W. B. Saunders, 1898.

THERE are many, many things in this splendidly written book that tend to make the treatment of sick children easier for the physician, and that will aid a mother in keeping her children out of the doctor's hands. The element that predominates is one of common sense based upon experience. Here one finds all that concerns the child from the time of its birth to the hour of its beginning education, and it is safe to assume that a child handled in the manner indicated in Dr. Griffith's book will be a splendid specimen mentally and physically. Although the book is intended primarily for mothers and nurses, there is much in it which the average physician does not know and might know to the advantage of his patients.

THE POCKET FORMULARY FOR THE TREATMENT OF DISEASES IN CHILDREN. By LUDWIG FREYBERGER, M.D., Vienna; M.R.C.P., London; M.R.C.S., Eng. Clinical Assistant, Hospital for Sick Children, Great Ormond street; Curator of the Museum, Pathologist and Registrar, Great Northern Central Hospital, London. London: The Rebman Publishing Co., Ltd., 1898.

THIS little book will be found helpful in prescribing for children. It contains a brief account of the properties and the general and special therapeutic uses of drugs, old and new, which have been proven valuable in the treatment of children's diseases. A large number of formulæ is given, many of them being credited to eminent authorities. Incompatibles, antagonists, and antidotes are noted, and careful mention is made of the correct dosage for different ages, and also of the exact amount needed of the flavoring agent which will best disguise an unpleasant taste or smell. Lists of preparations suitable for local and hypodermic medication are appended. The book is clearly printed and conveniently indexed.

THERAPEUTIC HINTS.

For Gastric Fermentation, due to gastrectasia, or pyloric stenosis:

℞	Resorcin	ʒ ss
	Bismuthi subnitratis	ʒ iiss
	Aq. dest.	℥ iii.

M. Sig. One teaspoonful in a glassful of water half an hour before meals, three times a day. (Shake the bottle before using.)—*Einhorn.*

For Uric-Acid Diathesis.—For such patients the following mixture is recommended by GOLDING BIRD:

℞	Sodii bicarbonatis	gr. xlv
	Ac. benzoici	gr. xv
	Sodii phosphatis	gr. lxxx
	Aq. bullient	℥ iss.

M. Dissolve and add:

	Aq. cinnamomi	℥ iii.

Sig. Two teaspoonfuls three times a day.

To Prevent Vomiting after Eating in Tubercular Patients.—MATHIEU claims that the administration of menthol as given below will limit or entirely prevent the occurrence of the coughing spells which follow ingestion of food, and frequently induce vomiting:

℞	Menthol	gr. iv
	Syr. simplicis	ʒ i
	Mucil. acaciæ	℥ iii.

M. Sig. Two to four teaspoonfuls at intervals after meals.

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ORIGINAL ARTICLES.

GONORRHEAL ARTHRITIS.

BY A. BRADLEY GAITHER, M.D.,
OF BALTIMORE, MD.

IN 1781 the extended article of Swedaiur called the attention of the medical profession to the fact that a peculiar form of rheumatism often existed during cases of urethral discharge, but many years passed before it was recognized that the gonorrhea should be looked upon as the cause of the inflammation in the joint. The discovery of the gonococcus by Neisser in 1879 at once gave rise to various theories as to the cause of gonorrheal arthritis. One school held that it was due to the gonococcus itself; another, that pus micro-organisms, which obtained entrance through erosions in the urethra, produced by the gonococcus, were the cause of the disease; a third, that it was the result of a mixed infection; a fourth, that a toxin, produced by the action of the gonococcus on the mucous membrane of the urethra, should be considered as giving rise to the articular symptoms.

That the fluid drawn from the synovial membrane often did not contain gonococci was brought forward as a proof that their presence was not essential at the point of inflammation, the possibility of the death of the gonococcus before the joint had been tapped being ignored. However, it was generally acknowledged that the disease did not exist with non-specific urethritis, and, on the other hand, was present in cases of gonorrheal ophthalmia, consequently something more than a mere irritation of the mucous membrane was necessary. It was also admitted that patients subject to ordinary articular arthritis did not show any predisposition to gonorrheal arthritis, while those who had suffered from the latter disease seemed especially liable to another attack should they acquire a fresh case of gonorrhea.

Höck, in 1893, and Neisser, in 1894, demonstrated positively the presence of the gonococcus in the effusion drawn from a joint affected with gonorrheal arthritis, and thus placed the pathology of the disease on a solid basis. Bordone-Uffreduzzi, in 1894, furnished the positive clinical and bacteriological proof that the disease is due to the gonococcus by making cultures from an ankle-joint, and producing specific urethritis in a healthy urethra by inoculation with the pure cultures. But the presence of the gonococcus in the blood-stream had not yet been proved, although it had long been maintained by many authors.

Assuming that gonorrheal arthritis is due to the direct entrance of the gonococcus into the circulation, one of two conditions must exist in order to harmonize with the symptoms of the disease: as only one joint is generally affected, the cocci must be present in the blood-current in very small numbers or the power of resistance of the membranes and tissues must be comparatively less. As a matter of fact, the gonococci found in an inflamed joint are rarely present in such numbers as would be expected, showing that the media in which they are growing is not especially congenial, or that the virility of the coccus has been diminished in its transplantation. Finger claims that the gonococcus can cause suppuration in the connective tissue. If this be accepted as true, it is surprising that its presence in the blood does not produce greater destruction of tissue than has been observed, and that the inflammatory foci set up are comparatively so few and also are so widely separated.

The presence of gonococci in the blood-stream has been proved by Thayer and Bloomer in an article on "Ulcerative Endocarditis Due to the Gonococcus."[1] The case was that of a female, aged thirty-four years, who had been suffering from an endocarditis of unknown origin. Gonorrhea was not suspected. During life, blood was aseptically drawn from the median basilic vein and mixed with agar-agar, the proportion of blood in the plates being at least one-third, which combination is practically Wertheim's medium. After forty-eight hours in the thermostat the plates were found crowded with white pin-head colonies. Cover-slips from these colonies showed a small oval diplococcus, at times biscuit-shaped, the elements being side by side. Transplantation on agar-agar, gelatin, potato, litmus milk, and bouillon were negative, no growth resulting. At the autopsy there was found an acute ulcerative endocarditis, with a diplococcus present in the valve, which, under similar tests, proved identical with that obtained from the blood during life. Examination of the vaginal secretion made after death showed a diplococcus, decolorizing by Gram's method. The authors believed that the diplococcus found in the case was the gonococcus of Neisser for

[1] *Johns Hopkins Hospital Bulletin*, April, 1896.

the following reasons: (*a*) Its form and arrangement were characteristic; (*b*) while present free, the cocci were frequently found crowded in the protoplasm of leucocytes in the thrombus on the valve; (*c*) it refused to grow on ordinary media; (*d*) it grew readily on human blood-serum and agar-agar (one-third blood); (*e*) it decolorized when treated by Gram's method.

The results obtained from this case prove beyond any reasonable doubt that the gonococcus can be present in the blood stream, thus giving a satisfactory explanation as to the manner in which the coccus is transferred from one portion of the body to another. The gonococcus enters the circulation through ulcerations in the urethra. The tissues beneath the epithelium of the urethra are often invaded, and sections have shown the smaller capillaries filled with gonococci, thus giving positive evidence as to the manner in which they may gain entrance into the blood-stream. Crippa reports a case of gonorrhea, of two-days' duration, in which there was marked edema of the frenum. The edematous areas were punctured, and gonococci were found in the fluid obtained. This discovery offers an explanation as to the mode of infection in those rare cases of gonorrheal arthritis which develop within a few days after the appearance of the urethral disease.

Cases of gonorrheal arthritis have been classified into serous, serofibrinous, seropurulent, and purulent synovitis, the names applied expressing the character of the contents of the joints. The serous and serofibrinous are the milder and more frequent forms of the disease. They generally end in complete resolution, with a gradual return of unrestricted motion. Every recurring attack seems to take a more severe form, and a third or fourth infection will almost certainly result in permanent disability. Dr. Broadhurst reports a case in which the patient had suffered three attacks of gonorrheal arthritis, each one preceded by acute specific urethritis. The attacks were progressively more severe, and after the last there remained some stiffness which appeared to be more muscular than articular. The man married, and was shortly afterward seized with acute inflammation of every articulation, resulting in ankylosis, which left him practically ossified, without power to move his head or any limb, and unable even to masticate his food. Purulent synovitis fortunately is rare. It often results in the complete destruction of the joint affected, sometimes necessitating resection or amputation. It is generally impossible to decide which variety of synovitis is present until after the joint has been opened, and in the early stages the treatment is the same under all circumstances. If there have been mild recurring attacks of serous or serofibrinous synovitis, a chronic condition of hydrarthrosis will probably remain, but with favorable prospects for unrestricted motion.

The knee-joint is most frequently involved in gonorrheal arthritis, furnishing about one-half of the cases. Next in order follow the ankle, shoulder, and hand. Fournier collected reports of 120 cases. The number of joints affected was 212. The knee was affected in 83 cases (more than two-thirds), the ankle in 32 (about one-fourth), and the fingers and toes in 25 (about one-fifth). The disease is present in two per cent. of all cases of specific urethritis in males, but is rarely found in females. A man of such large experience as Foucart says that he never saw a case in a woman.

Instances have been reported in which gonorrheal arthritis developed within a few days after gonorrhea was contracted, but, as a rule, it appears between the third and fifth weeks. It may, however, develop after months, as a result of chronic posterior urethritis, and the patient cannot be considered as having escaped this complication until it is positively known that the urethra no longer contains gonococci. Acute gonorrheal arthritis, whether monarticular or polyarticular, begins with a feeling of dull pain in one or more joints, followed quickly by redness and swelling, as the inflammation increases. Pressure over the tendons and insertions of the ligaments give pain before effusion has taken place. There is a rise in temperature, possibly as high as 104° F., but generally there is a marked contrast between the amount of swelling or pain and the temperature. Effusion occurs rapidly, the tension produced aggravating the pain. Extension of the inflammation along the muscle-sheaths prevents motion, and causes pain to be felt above and below the joint. In a few days the temperature drops to nearly normal, rising again if a new articulation becomes involved. Although the tension in the joint may become so great as to make suppuration seem inevitable, as a rule it does not take place, and the disease shows a tendency to become chronic, with occasional acute exacerbations. The endocardium and pericardium are not involved as frequently as in articular rheumatism. The urethral discharge is not diminished or suppressed by the appearance of the arthritic complication.

In chronic gonorrheal arthritis or hydrarthrosis, the invasion may be so slow and the constitutional affection so slight, that the first symptom which attracts the patient's attention may be the swelling and restricted motion of the joint. The knee, ankle, and elbow are usually affected. Absorption, as a rule, is very slow, and deformity may result

from adhesions due to inflammatory changes, or the exudate may develop organized fibrin, with resulting ankylosis of the articulating surfaces. In severe cases the synovial membrane may be thickened, while its inner surface becomes granular and pulpy. Erosion of the articulating cartilages and destruction of the bone substance, with separation of the periosteum, may completely destroy the joint, necessitating resection or amputation. The bursæ may undergo similar changes to those which take place in the synovial membrane of the joint. The most frequently affected is that in front of the tendo-Achillis, involvement of which gives rise to the characteristic limp, so often seen in cases of gonorrheal arthritis. The muscles of the neck and eye are at times involved, while affections of the spinal cord and sciatic nerve are by no means rare.

The diseases with which gonorrheal arthritis is most likely to be confused are articular rheumatism and tuberculosis of the joints. The persistence of pain in one articulation, the chronicity of the effusion, and the lack of conformity between the local lesion and the constitutional symptoms are the main differences from articular rheumatism. The diagnosis from tubercular inflammation is facilitated by the bacteriological examination of the contents of the joints, and of any existing urethral or vaginal discharge. In cases in which the result of such examination is negative, the differentiation is very difficult to make, especially in married women, with possibility of venereal disease contracted from the husband, and without a tuberculous history.

The treatment of gonorrheal arthritis has been most unsatisfactory, and will continue so until a means has been discovered for discouraging the development of the gonococcus, when once it has entered the circulation, or has been deposited in locations which cannot be reached by topical applications. White recommends quinin in doses of 5 to 10 grains, three times a day, and biniodid of mercury $\frac{1}{10}$ of a grain until improvement sets in. Mercury, in various forms, pushed to its constitutional limit, has been advocated by many authorities, and in some cases can be used to advantage. Copaiba, in large doses, and salol are also, at times, of great value. If the swelling and pain are great, the application of leeches may give temporary relief. The use of the Paquelin cautery, applied daily, is of benefit, especially in the subacute stage. Hot applications of a lead-and-opium solution may be used to alleviate pain, and the joint should be wrapped in cotton, bandaged lightly. If the case has become subacute or chronic, with delayed resolution and impairment of motion, massage, and particularly forcible, gradual flexion of the joints hastens the return of voluntary motion. Too much stress cannot be laid upon this point. By breaking up any adhesions before they have had time to become thoroughly organized, not only is the function of the joint restored sooner, but also possible permanent impairment of motion is prevented. Force, however, should only be used in flexion. If adhesions keep the joint in a position of flexion, the tendons should be severed before forcible extension is attempted. Surgery is being more frequently resorted to, and the aseptic opening of the joint, in severe cases, followed by irrigations with an antiseptic solution, is a rational and often most satisfactory procedure. If the arthritis is due to specific urethritis, the urethra should receive especial attention, and the patient should be warned, on his recovery, of the great danger of permanent disability should he again acquire gonorrhea.

The patients whose cases are here reported were treated by means of copaiba, 10 grains, cubeb, 5 grains, salol, 3 grains, and pepsin 1 grain. As constitutional effects of copaiba were present in both instances, it seems probable that the therapeutic results noted were due to this drug.

CASE I.—January 10, 1896. A. R., white, aged twenty-five years, had been suffering from specific urethritis six weeks. First attack. Slight burning on micturition. No increase in frequency. Discharge profuse and purulent. Had been treated with injections of sulphate of zinc. Two days before was taken with feeling of malaise, followed by slight chill. Temperature, 102° F.; pulse, 90. The joints of the second and third fingers of the right hand were slightly red, swollen, and painful, the articulation of the first and second phalanges of the second finger being especially sensitive. The hand was enveloped in cotton, and a bandage applied. Capsules of salol compound, one every three hours, was ordered. No injection was ordered, as the patient could not use a syringe on account of the condition of his hand. January 12th. Patient was in great pain, complaining of throbbing sensation in the right hand, especially the second finger, which showed effusion at the joint of the first and second phalanges. Skin covering the same was glistening. Could not bear weight of bedclothes on hand, or slightest draught from an open door. Hot lead and opium lotion applied every two hours. Temperature, 101° F.; pulse, 92. January 16th. Sixth day. Temperature, 100° F.; pulse, 84 in morning. In the evening a bright rash appeared over face, arms, body, and legs, which proved to be a well-marked copaiba erythema. Bowels slightly loose. From the moment the erythema appeared the symptoms of the arthritis improved, the pain practically disappearing in a few hours. The capsules were discontinued. January 18th. The fingers could be moved with almost no pain, and the swelling around the joints was less. The urethral discharge, which greatly dimin-

ished while the effect of the copaiba was at its maximum, returned as before when the administration of the drug was suspended. The gonorrhea lasted several months, with no return of the arthritis.

Case II.—March 10, 1897. W. F., white, aged twenty-four years, had had specific urethritis three weeks; second attack. No pain on micturition or increase in frequency. Discharge moderate and purulent. Four days before right knee became painful and enlarged. Was then markedly swollen, with slight effusion. Swelling pronounced on inner surface, extending along tendon-sheath above joint. Articulation of metacarpus and first phalanx of right little finger was swollen, red, and painful. Duration two days. The patient was ordered capsules of the salol compound, one every three hours, and an irrigation for urethra of bichlorid of mercury 1 to 40,000. March 12th. Patient had been compelled to go to bed on account of pain in knee. The joint was wrapped in cotton and hot lead-and-opium solution applied every two hours. Condition of right knuckle unchanged. Temperature, 101.8° F.; pulse, 80. Bowels very loose. March 14th. Condition improved. Knee not so painful. The diarrhea was so pronounced that the capsules containing copaiba were stopped and quinin and salol substituted. March 17th. Pain and swelling in knee much less. Temperature, 100.5 F.; pulse 80. Bowels regular. Capsules of salol compound were again administered, one every four hours. March 20th. Patient much improved. Pain in knee practically gone. Swelling less pronounced. The knee-joint was stiff and could only be slightly flexed. Temperature, 99° F.; pulse, 76. Massage treatment was given the knee every day, with gentle forced flexion, and as the effusion was absorbed voluntary motion gradually returned. The capsules were continued and on April 1st the man could walk fairly well. By April 10th, one month after the beginning of treatment, only a slight stiffness remained, and the urethritis having been cured in the meantime, the patient was discharged.

Both these patients seemed especially susceptible to the action of copaiba, and in both marked and continued improvement was noted as soon as the physiological effects of the drug were observed. There seemed to be an almost immediate relief from pain. Copaiba undergoes changes in the economy by means of which it becomes germicidal. Appenheim has shown that urine passed by a patient after the administration of 20 grains of copaiba sterilized silk threads charged with microbes. Since gonorrheal arthritis has been proved to be due to the transplantation of the gonococcus, the possibility that the systemic effect of copaiba may inhibit their growth or even prove germicidal, cannot be ignored. Although in the light of our present knowledge we are unable to make out a distinctly rational treatment for gonorrheal arthritis, copaiba, by the results obtained from its use, seems to have proved itself worthy of a trial.

PROTARGOL AND ARGONIN IN THE TREATMENT OF THE PURULENT OPHTHALMIA OF INFANTS.[1]

By EDWARD S. PECK, M.D.,
of New York;
Professor of Diseases of the Eye in the Post-Graduate Medical School and Hospital; Visiting Ophthalmic Surgeon to the City Hospital.

Since the introduction of silver nitrate in the treatment of gonorrheal catarrh, by Professor Neisser of Breslau, experiments have aimed at the eradication of the micro-organism characteristic of that infection. Previous attempts lay in the sole direction of arresting the profuse secretion, with the evident idea of the ancient metaphor—no secretion, no infection. Since Neisser's announcement of the gonococcus, about twenty years ago, efforts at replacing the silver nitrate by other agents have been made in the direction of those whose action is more bland, or less caustic. Condé's fluid, solution of potassium permanganate, cupric sulphate, zinc sulphate, mercuric bichlorid, chlorin, bromin, etc., have been in vogue, with the result that none of them has achieved the distinction of a *sine qua non* in ophthalmic practice. No remedy has accomplished what the silver nitrate has, *viz.*, to eradicate the gonococcus and to thus destroy the source of infection. In that most excellent paper of Weeks (1886) which aroused perhaps more earnest endeavor to establish the true germicidal remedy for this infection than any modern contribution in English, we are told the relative germicidal properties of the various remedies in ophthalmic practice employed in this and kindred conjunctival diseases. The silver nitrate holds the first position, but, unfortunately, it cannot be used in the strength of solution required on account of its severely irritating properties.

My only motive for presenting this brief paper is to emphasize the following points in connection with the two remedies, protargol and argonin, in so far as they seem to be superior to the silver nitrate; these points are: (1) the quicker destruction of the gonococcus; (2) the earlier disappearance of the secretion and the inflammatory process; (3) the resolution of the injured corneal and conjunctival tissues. A brief chemical review of these two agents is necessary in order to understand their clinical relations. Each is described as "a silver proteid compound, solutions of which cannot be precipitated by sodium chlorid, or by albuminous fluid." Protargol contains 8.3 per cent. of silver; it is a yellowish powder, readily soluble in cold as well as in hot water, forming a clear solution. It keeps well in powder form and in solution. Argonin contains 4.2 per cent. of silver. It is also a powder, fine,

[1] Read before the Section on Pediatrics of the New York Academy of Medicine, December 8, 1898.

white, readily soluble in water on gently warming, but its solution is turbid. Argonin decomposes if exposed to too much heat in the preparation of solutions, and when decomposed it is very irritating. It is said not to keep well in solution, even in dark-colored bottles. In this connection it should be noted that silver nitrate contains 6.35 per cent. of silver, occupying between protargol and argonin a middle position as to the basic salt.

I desire to quote the conclusions of a clinician as to argonin, who used only 2-per-cent.-solutions. "First, both experimental and clinical investigations have shown that argonin kills the gonococci in a short time, notwithstanding its lack of albumin-coagulating power. Second, even in solutions stronger than 2 per cent. it has hardly any tendency to set up inflammation and it has no caustic properties." Protargol is more painful, and does not require solutions stronger than one-half to two per cent.; it is more promptly germicidal, and it is less likely to irritate. The germicidal superiority of protargol over either argonin, or silver nitrate commends it especially in the disease under consideration. This, in brief, is a comparison of the clinical behavior of each salt.

In some of the cases observed by me the gonococcus disappeared as early as two weeks, and in none later than four weeks. The average persistence of the specific germ under the silver-nitrate treatment is about five weeks. In one case where the mother had the gonococcus of Neisser, and both eyes of the infant were affected, the duration was only two weeks; but the ophthalmia did not appear until the child was more than two-weeks old. On the other hand, the bacteria were abundant in both mother and child. This was one of those unusual cases in which the abundance of secretion did not carry with it virulence of infection; and the anomalous relation can only be explained by the late development of the ophthalmia. In the limited observations thus far made by me there has been less ulceration of the cornea, with iris-protrusion and incarceration, less corneal staphyloma, and less cicatrization of the conjunctiva than with the silver nitrate; in other words, a quicker eradication of the gonococcus, and an earlier disappearance of the secretion and inflammatory processes, have been followed by a prompter resolution of the injured cornea and conjunctiva, while pain and reaction have been much less under the protargol than under the silver-nitrate treatment.

Before giving in detail the method of employing these salts, it is pertinent to the purposes of this contribution to describe the gonococcus found in the gonorrheal ophthalmia of infants, and the method of preparation for microscopic observation. The bacterium which Neisser discovered in 1889, as distinctive of gonorrhea, was a diplococcus of about one micromillimeter in size, contained within a round pus-cell formation; this is the usual bacterium found in purulent ophthalmia, and it establishes the unfailing source of origin of the contagion. Fifteen to twenty cells on one slide under one-eighth immersion-lens with a No. 2 binocular would be regarded as a large number; this power represents about 750 diameters; cells containing from twenty to one hundred diplococci may be said to be rich in bacteria. Sometimes only one or two round cells are found with from ten to twenty diplococci contained in each, in which case the specimen may be said to be poor in germs.

There are other microbes than the diplococcus of Neisser capable of reproducing purulent ophthalmia. Weeks isolated a bacillus in 1886 capable of reproducing a contagious ophthalmia; this was the same bacillus noted by Koch in Egypt in 1883, but not renewed by culture or transmission. Gifford in Omaha, and Axenfield and Morax in Paris and Würzburg, and Burnett in Washington found not the diplococcus of Neisser, but the micro-organism of pneumonia. Morax in 1897 found a diplobacillus, which he regarded as essential to the production of a contagious subacute conjunctivitis. As stated, all of these varieties of germs have been found and cultivated, and from their cultivations purulent ophthalmia has been produced. While we are indebted to bacteriologic discoveries for the nice differentiation of these diseases, the last word has not been said as to the actual conditions under which micro-organisms act. There must be a proper habitat of connective tissue and mucous membrane for the full play of their specific qualities; and there is much to be learned.

The method of preparation is very simple. A loop of wire, preferably of platinum, made fast to a wooden handle, gathers up a bit of secretion from a lower lid; this is transferred to a glass slide, and a second slide is smeared upon the first, thus giving two surfaces for observation at the work-bench; these slides are separated from each other, and placed in a bath of Löffler's methylene-blue for one or two minutes; a stream of water is allowed to flow over the deeply-colored specimen, after which their surfaces are dried with white blotting-paper. Thus two specimens are ready for observation. They are best examined under immersion with oil of cedar, and with the power already noted. The presence of a single cell with diplococci means infection—and it often happens that repeated examination has to be made to verify the supposition of their presence.

The following process is given by F. Miehle[1] for

[1] *Pharm. Ztg.*, xlii., p. 817.

making solutions of argonin readily and rapidly: Ten parts of cold water are first introduced into a flask, and then one part of argonin. The whole is then vigorously shaken until a uniform mixture is had, when sufficient boiling water to make up the desired quantity of solution is added, the whole being frequently shaken until complete solution occurs, when the mixture is strained through a piece of gauze. The most effective solution of argonin for clinical work is one of 3 per cent. To prepare solutions of protargol the powder is stirred with some water, with or without the addition of a little glycerine, into a paste, and then diluted by adding the necessary quantity of cold or lukewarm water. Solutions of 0.25 to 2 per cent. are generally employed. A saturated solution of protargol is 50 per cent.

The method of using these solutions in a case of gonorrheal ophthalmia of an infant should be described at this point, as also the whole régime of the management of the patient. I may say here that such régime requires the skilled work of a trained nurse or nurses, in conjunction with the good judgment of a physician. The best type of régime is found in a well-regulated hospital; but the same details can be carried out in a private family, under similar skilled labor and good judgment. If one eye only be affected the fellow eye should be covered securely in every part, save at the lower outer region, over the temporo-malar portion of the orbit. This little opening is left for ventilation. The least harsh covering for a newly born infant's eye is lintine; this is cut round, slightly larger than the orbit; it is covered with a soft fluff of sterilized cotton; and this latter with gauze; collodion is smeared around the whole edge of the pad, save at the point already noted. This protected eye may be inspected every second day. The affected eye must be handled by the nurse from behind the patient's head; the nurse should never carry the infant in her arms; small round layers of lintine are transferred from a large square of ice every minute or two to the affected eye—and these minute changes are made for one hour without intermission; when an interval of one hour, or two or three, is given, according to the mild character of the affection. The rule is, however, to begin with continued applications of the ice-cold pledgets by day and night, the patient being under the care of two nurses. No interval of application should be ordered until there is positive evidence of an abatement of secretion; and this may not occur under two or three weeks; and it may result in a few days. The eyeball, lid, interspaces, and conjunctival sacs should at first be thoroughly irrigated with warm saturated solution of boric acid, the saturation-point of boric acid being about 4 per cent. As the secretion diminishes and gets shreddy, the nurse should wipe out the discharge with cotton dipped in the same boric-acid solution. Every effort should be made to keep the eye free from secretion. The protargol solution, at first 5 to 10 per cent. in strength, should be carried rather forcibly over the eyeball, and into the folds of the conjunctival sacs by means of a large pipette; it should at first be used from four to six times a day. As soon as the secretion lessens in amount, or becomes shreddy, while its fluid part becomes thinner, the protargol solution may be brought down to 2 per cent., and may be used less frequently. A successful result of such treatment would be a limitation of the disease to three, possibly, two weeks.

Examinations for gonococci should be made every second day, and an eye should not be regarded as safe, or as amenable to contact with its mother, until a full week has elapsed, in which absolutely no gonococci are found under the microscope. It must not be forgotten that, even with an apparently uninflamed eye, the sclera being white, the cornea glistening, and the lids scarcely swollen, gonococci may be present. The physician should not be too conservative as to the length of quarantine in a convalescing ophthalmia.

It is of great clinical advantage to know that protargol can be combined with many other salts, such as the sodium-chlorids, alkalies, etc.; it is unaffected by cocain, atropin, eserin, and other allied anodynes used locally in the eye; hence its field of usefulness in ophthalmia is very broad. It is not decomposed or precipitated by the albumin or alkalies present in the secretions from mucous membranes; and it may be stated that it is the only silver compound at present known which is not precipitated by dilute hydrochloric acid. I may add that its use in my hands in suppurations of the lacrimal sac, purulent styes, etc., has been more frequently followed by a checking of the pus-formation than when any other agent has been employed.

The following cases are quoted to show the advantage to be derived from the use of protargol in the treatment of gonorrheal ophthalmia. The results obtained show that the duration of the disease has been shortened, that gonococci have disappeared at an earlier date than usual, and that the sight of the affected eye has, to say the least, not suffered more than when other methods of treatment have been employed. In the earliest cases the protargol powder was dusted into the eye three times each day and allowed to remain fifteen minutes. This was soon changed to twice each day, but as the inflammatory reaction was marked and the patients com-

plained of severe pain, a fifty-per-cent. solution was substituted, being applied twice or thrice each day and allowed to remain in the eye three minutes. Later, a five-per-cent. solution was used and allowed to remain in the eye fifteen minutes. This last solution has proved to be the most satisfactory.

I will note only three cases of infantile ophthalmia in detail:

CASE I.—This case, of which I have incomplete notes, was that of a French baby five days old, admitted September 23d. Gonococci were found in abundance. October 3d there was great chemosis with corneal ulceration. The pure protargol was used twice each day and allowed to remain three minutes. On the fourteenth day after admission gonococci had disappeared, and on the seventeenth day the secretion was so slight that all treatment at night was discontinued. At this time the mother refused to remain longer in the hospital and we were unable to watch the case further; recovery was assured, with slight temporary ulceration of the cornea.

CASE II.—A Syrian mother brought her baby of two weeks of age to my service at the Post-Graduate Medical School suffering with purulent ophthalmia. Both eyes were attacked, pus was abundant, swelling was great, but there was no involvement of the cornea of either eye. On inquiry of an interpreter I learned that the mother had a profuse vaginal discharge, and that the ophthalmia was five-days' old, in other words, it developed on the ninth day of the life of the child. After the second visit I declined to treat the child as an ambulant patient, and both mother and child were sent by special boat to the Ophthalmic Division of the City Hospital. The mother was found to have the gonococcus of Neisser, while the secretion from the infant's eyes was rich in bacteria. Mother and child were isolated. Vigorous treatment, as already detailed, by the aid of a day and night nurse, and with the use of a solution of protargol, five per cent., so far hastened the eradication of the gonococci, and the subsidence of the inflammation that the child was discharged from treatment in 2½ weeks. In this case the protargol acted like a specific.

CASE III.—The most remarkable case is that of a baby born November 1, 1898. For several weeks previous to confinement the mother had been in the venereal ward for an obstinate gonorrhea. The child's eyes were carefully irrigated just after birth and silver nitrate, two per cent., dropped in the eyes. This was repeated on the following day. No discharge was noted until November 10th, when the left eye was attacked. The secretion at first was scanty and yellow. An examination was made at once. Pus-cells containing as high as thirty gonococci were found. The conjunctival mucous membrane was red but the inflammation was slight. Ice-pads were applied to the eye for three hours. On the following day the secretion was greatly increased and of a dirty brown color. The chemosis was very slight and the cornea bright and glistening. Ice-pads were applied constantly day and night, and the eye was irrigated with warm boric acid solution every ten minutes. Two drops of protargol solution, five per cent., were applied at 1 and 9 A.M., and 5 P.M.; and allowed to remain ten minutes. November 18th, eighth day, the discharge was so scanty and the inflammation so slight that the ice-pads were applied every fourth hour and irrigations were lengthened to intervals of fifteen minutes. The cornea remained bright and clear, and the baby would open the eye widely when the light was not too strong. By November 21st, eleven days after admission to the eye ward, the discharge had almost stopped and, as no gonoccocci had been found since November 11th (the secretion having been examined every second day) the protargol was discontinued. The eye was irrigated once each hour and the day and night nurses were discharged. On the following day the discharge reappeared and increased rapidly. The color was a dirty yellow. The gonococci were numerous, some pus-cells containing more than thirty of these organisms. On the second day after discontinuance of treatment protargol, five per cent., was used as before and the irrigations were employed every fifteen minutes. Ice-pads were applied every fourth hour. There was very little inflammation and the cornea was still bright and clear. On November 25th, after a long examination, one cell containing a few gonococci was found. The secretion was again extremely scanty. November 28th and 30th, a few gonococci were found. On the latter date it was decided to use the protargol every four hours. On December 2d, the secretion was very slight, and only one pus-cell containing gonococci could be found. There was no involvement of the cornea and vision was perfect.

In this connection a few cases of adults will be of interest:

CASE IV.—The first adult case is that of a young man (McMahon) aged nineteen years, who was admitted to the Ophthalmic Division of the City Hospital, September 21, 1898. Gonorrheal ophthalmia had appeared in his right eye two days before admission. He had concurrent gonorrhea. There was extreme chemosis and abundant discharge but no corneal involvement. Ice-pads were applied constantly day and night, and the patient strictly confined to his bed. The eye was irrigated with warm boric-acid solution every fifteen minutes. A few grains of protargol were dusted into the eye three times each day and allowed to remain fifteen minutes. This increased the chemosis and the patient complained of a severe burning pain. We then tried leaving the powder in the eye three minutes but this was also too irritating. Finally, a fifty-per-cent. solution was made, applied three times each day, and allowed to remain three minutes. On October 5th, the secretion had so far diminished that irrigations were made once in thirty minutes. Two days later the time was lengthened to once each hour. October 12th, twenty-first day, the inflammation had so far declined that the ice applica-

tions were made intermittent—one hour on and one hour off. This was soon changed to one hour on and two off, and shortly afterward to one hour on and three off. By October 25th, just five weeks after the disease began, the secretion had entirely disappeared, all treatment except an occasional drop of atropin had been stopped and the patient was up and about the ward.

In this case the secretion was examined every other day. During the early stages the gonococci were numerous and the pus abundant. The number of gonococci diminished gradually. They disappeared at the end of the third week, at which time protargol was discontinued and silver nitrate, one per cent., was substituted. Atropin was used as required. To day the eye presents leucoma, staphylomata, and pannus. The patient has perception of light but cannot count fingers.

CASE V.—Frank T., aged twenty-six years, gonorrhea concurring, an unusually virulent case. The disease appeared in the left eye September 17th, and in the right eye September 21st, the day of admission to the hospital. At this time the left cornea was deeply ulcerated and the right one hazy. Gonococci were numerous and the secretion abundant. The same treatment was instituted as in the preceding case and the strength of protargol diminished as before. On October 5th, two weeks after admission, the secretion was so much diminished that the period of irrigation was lengthened to once every thirty minutes and, two days later, to once each hour. Chemosis diminished steadily and on October 18th, intermittent ice applications were begun (one hour on and one off, one hour on and two off, and finally one hour on and three off). October 25th gonococci had disappeared. November 1st, forty days after admission and forty-four days after the appearance of the disease all secretion had disappeared, treatment was discontinued, and the patient was out of bed. With the disappearance of gonococci silver nitrate, one per cent., was substituted for the protargol. At present there is leucoma and a small staphyloma of the right eye. Leucoma and slight adhesions of left eye. Iridectomy of right eye, performed later, produced very useful vision.

CASE VI.—In the case of a boy, aged sixteen years, with concurrent gonorrhea, the gonococci were never numerous, though there was severe chemosis. His attack began September 20th. He received the same treatment as the previous patients. An ulcer of the cornea developed. September 27th ice applications were replaced by hot applications, one hour on and one hour off. On October 2d these were reduced to one hour on and three off. October 3d the applications were discontinued. From two to five irrigations were employed twice each night and then discontinued. The gonococci had steadily diminished and disappeared on the twentieth day. Result: Staphyloma and leucoma. Can count fingers at twenty-five feet.

CASE VII.—Mary R., aged forty-five, gonorrhea concurring, a syphilitic. The disease appeared in the left eye September 21st. Gonococci were numerous and chemosis was severe. A corneal ulcer rapidly developed. After one week the pure protargol was replaced by a solution of fifty per cent. and the eye was irrigated three minutes after each application. By October 8th, seventeenth day, the intervals of irrigation were lengthened to twice each hour. Five days later the application of ice-pads at night was stopped. From October 13th to 20th they were used one hour on and three off and during the day only. Protargol was not stopped until October 15th. On October 20th, just one month after the first appearance of the disease, all treatment was discontinued and all secretion had disappeared.

I am under obligations to Dr. E. E. Woolworth, House Surgeon of the City Hospital, for the details of the cases here presented; also, to Dr. Ralph Tousey, Junior Surgeon of the City Hospital, for the stained preparations of the diplococcus shown under the microscope before the Section.

GASTRIC LAVAGE AFTER GENERAL ANESTHESIA.

BY I. P. GUNBY, M.D.,
OF SHERMAN, TEXAS.

AFTER an operation requiring general anesthesia, nausea is frequently the most disagreeable symptom. No matter how thorough the preparation or how skilful the operation, vomiting will sometimes come on with reaction, and persist for days in spite of everything the nurse or physician may do. It has seemed to me that nausea may well be called the *bête noir* of anesthesia. When chloroform, as it is now manufactured, is given carefully, and the patient watched closely and continuously, I believe one may feel perfectly safe from the dangers that were formerly supposed to attend its administration. In my experience the distress and trouble commence after the patient has reacted. This nausea is more pronounced in adults than in children, and as a rule grows worse each successive time the chloroform is administered.

The cause of the nausea after general anesthesia has not been made very clear. It has been claimed that it is due to the effect of the anesthetic on the central nervous system, stimulating the vomiting center. It has seemed to me that a somewhat general idea of the cause may be gained if one considers that the entire system is thoroughly saturated with the anesthetic. Every one of the senses is paralyzed, and all the functions more or less suspended except those of circulation and respiration. As the organs begin to recover and the nervous system reasserts its control, their efforts are first directed to the expulsion of the poison that is present throughout the body. The lungs, the skin, the kidneys, the liver, and bowels all do what they can in ex-

pelling the anesthetic. The vomiting is an effort on the part of Nature to relieve the surcharged glandular and vascular systems of the drug. Chloroform can be detected in the mucus vomited for some days after its administration. Of course, some of the drug is swallowed with the saliva during its administration, but I am convinced that the stomach in this and some other conditions in which the system is profoundly poisoned takes upon itself an excretory function, separating the offending material from the circulation and expelling it from the body.

Patients find relief from the nausea after chloroform when they get rid of the chloroform, and one may hasten this relief by assisting the excretory organs. These patients should breathe the purest, freshest air that can be had, their bodies should be bathed and rubbed, the kidneys should be kept active, and the bowels moved. They nearly always find relief when the bowels move freely, but this is sometimes difficult to accomplish on account of the stomach rejecting every purgative that can be given, and, unfortunately, the laboratory department of our profession has not yet furnished us with an effective cathartic that can be administered hypodermically.

During the month of January, 1898, I gave chloroform to a woman who had been accustomed to wash her stomach out for some time on account of some digestive disturbance. While taking the chloroform, and after its administration was discontinued, she retched and vomited a great deal. When she regained consciousness she called for her stomach-tube, and proceeded to flush her stomach with warm water. It afforded her relief from the nausea immediately, and later in the day she took nourishment, and on the next day ate as heartily as usual. Her experience made quite an impression on me, and I determined to try the method thoroughly. I have found that patients experience some difficulty in swallowing the tube the first time when they are conscious, so I determined to irrigate the stomach before they fully regained consciousness. My colleague, Dr. King, and I have carried out this measure in nearly every operation we have performed on adults during the past eleven months, and it has almost uniformly succeeded in relieving our patients of nausea, or rather in preventing them from experiencing nausea. It has, indeed, made the after-treatment much simpler and easier both for our patients and for ourselves, and in some doubtful cases we have thought that their escape from nausea turned the wavering balance in their favor. On looking up our records, I find that we have employed the measure more than fifty times, and the list of operations after which it has been employed covers a considerable range. One was a case of abdominal hysterectomy, another of resection of the intestine, and there were a number of laparotomies for various causes. In all these patients there was scarcely any nausea. Occasionally there was some vomiting, but it was of short duration, and the patients experienced very little distress. They were more cheerful, and took and assimilated nourishment very much more readily than had been usual in similar cases under our observation. The nurse in charge of the Sherman Sanitarium, where most of these operations were performed, soon became an enthusiastic advocate of the procedure. She believed that it relieved her and the patients more than anything that could be done.

The method we employ is that of flushing out the stomach by means of an ordinary stomach siphon just as the chloroform is discontinued, and while the operator is applying the dressings to the wound. From one to two quarts of warm water is used, it being continued until the water returns free from bile or mucus. In order to keep the patient's teeth from closing on the tube, the use of a mouth-gag or large cork is necessary. It is best to have a large-sized stomach-tube, as the smaller ones often become choked by thick mucus. Not more than ten or twelve ounces of water should be introduced at a time, as larger quantities are apt to cause some retching. We have found that the distance from the mouth to the stomach varies considerably, and a little judgment is required to introduce the tube just far enough and not too far.

How this lavage acts in preventing nausea I cannot say. It certainly does not clear away enough chloroform to amount to much. It cleanses the stomach of the accumulated mucus, bile, and saliva, and in some way gives to it a freshness and vigor that enables it to send its contents down the intestines instead of up the esophagus. I think the simplicity of this method should commend it to all. It can be easily carried out in a few minutes without annoying the patient, for he is not conscious that it has been done unless informed of it afterward. It hastens convalescence by enabling the patient to take nourishment much sooner than it otherwise could be taken. It will decrease the dread of chloroform, and render operations generally less objectionable. I sincerely believe the time will soon come when a gag and stomach-tube will be a part of the outfit of the assistant who gives the anesthetic, and that every anesthetizer will be instructed in their use just as regularly as in the administration of the anesthetic.

Trachoma in Hungary.—Trachoma is widely spread among the 8,000,000 inhabitants of Hungary, four in 1000 being afflicted with the disease.

CLINICAL MEMORANDUM.

A NASOPHARYNGEAL POLYPUS OF ENORMOUS SIZE.[1]

BY MAX THORNER, M.D.,
OF CINCINNATI;
PROFESSOR OF CLINICAL LARYNGOLOGY AND OTOLOGY IN THE CINCINNATI COLLEGE OF MEDICINE AND SURGERY; LARYNGOLOGIST AND OTOLOGIST TO THE CINCINNATI HOSPITAL.

NASAL and nasopharyngeal polypi of more than average size are occasionally encountered, but the specimen of polypus here presented, which was taken from a patient on April 23, 1898, is of such unusually enormous size that I present it on this account.

The patient, a white man, thirty years old, was admitted to my service at the Cincinnati Hospital, his complaint being inability to breathe through his nose, fulness in the head and deafness and continuous roaring noises in the ears. This annoyance had existed for several years, and was first noticed some seven or eight years ago. He stated that he had been operated upon several times, the last time at Washington, D.C., about one year before, when a tumor had been removed piecemeal from his throat, but not very long after the operation the obstruction again made itself felt.

The patient had the characteristic expression of a mouth-breather. Hearing was very much diminished, and the voice had the characteristic nasal twang. Upon examining the throat a large polypoid mass of grayish color and glistening surface about the size of a pigeon's egg could be seen protruding below the right side of the soft palate. The soft palate itself was immovable during phonation and was undoubtedly pushed forward. Upon lifting the palate with a palate hook, which could be very easily done because the mucous membrane was apparently obtunded, it was seen that enormous white masses of irregular size filled the entire post-nasal space. The site of origin of these masses could not be made out, but it was apparent that it was somewhere on the right side of the pharynx. The left nasal fossa was free, but the right fossa was filled posteriorly with the same polypoid masses. I was under the impression that I had to deal with several polypi, and expected to remove them one after another.

On April 23d I operated upon the patient in the presence of the internes, Drs. McKee, Iglauer, and Dean, under cocain anesthesia. I introduced a cold-wire snare behind the soft palate, and pushed it up as far as possible over the polypoid masses. After some difficulty I succeeded in extracting this enormous mass of polypoid tissue, and found to my utter astonishment that I had removed the entire growth, which represented one large polypus, consisting of many large and small lobules. Some of these lobules were of the size of a small hen's egg. (The illustration does not convey an exact idea of the specimen as it was made after the latter had been in a solution of formalin for some time and had become hardened and somewhat contracted.) The tumor was attached by a slender pedicle of the diameter of a thin lead-pencil to the right lateral wall of the pharynx just in front of the orifice of the Eustachian tube, and after the operation the bleeding-point of its insertion could readily be seen with the aid of a rhinoscopic mirror. The right nasal fossa, of course, was free after the operation, as the

Exact size of nasopharyngeal polypus removed from the patient.

[1] Read at the annual meeting of the American Laryngological, Rhinological and Otological Society, at Pittsburg, 1898.

mass which had been seen in its posterior portion was but a part of the polypus.

The growth is a so-called mucous polypus, which, as we know now, is nothing but a fibroma edematosum, and, though located in the post-nasal space, must not be confounded with a nasopharyngeal fibroma, which usually takes it origin from the periosteum of the basilar portion of the occipital bone and the anterior surface of the upper cervical vertebræ. There is little doubt that this polypus originated in the posterior portion of the right nasal fossa near the choana, and that by reason of its location and weight it descended into the post-nasal space, where the conditions for its unusual development were very favorable. The hemorrhage following the operation was insignificant. The largest diameter of this tumor is 2¾ inches, its greatest thickness 1⅜ inches, and its weight 1 ounce, 5 drams.

I have been unable to find a record of a post-nasal polypus of similar size.

NOTE.—No recurrence had taken place up to December 22, 1898, eight months after the operation, when the patient presented himself again for reexamination.

SPECIAL ARTICLE.

THE MEDICAL NEWS' INVESTIGATION INTO THE CLAIMS OF CHRISTIAN SCIENCE.

BY JOHN B. HUBER, M.D.,
OF NEW YORK;
ASSISTANT TO THE CHAIR OF PRINCIPLES AND PRACTICE OF MEDICINE IN THE NEW YORK UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE.

IN the following report to the MEDICAL NEWS on the results of an investigation of Christian Science from the viewpoint of a doctor of medicine, although a number of general observations are set down, a consideration of this cult as a philosophic system has not been attempted. I have in the main confined myself to an examination of the Christian-Scientists' method of treating the sick and of the results claimed for this method. In pursuance of this plan I have gathered the histories of some twenty people treated "in Christian Science," and these histories are detailed in this paper.

To begin with I called at the "First Church of Christ, Scientist," in Forty-eighth street, between Sixth and Seventh avenues, this city, having a card of introduction to Mrs. Stetson, the "pastor" of the church. I went in at the basement and entered a large room which was very comfortably furnished and which had an air of inviting warmth; one got the impression that esthetic effects had been attempted with much success. A gentleman took my card to Mrs. Stetson. In the meantime I observed several hundred men and women (the latter much the more numerous) chatting in groups. It seemed a well-dressed, a well-to-do, and so far as I could judge at the time, an intelligent company.

I was presently taken to a room such as would be the vestry-room in an ordinary church and here I met Mrs. Stetson. During my call of half an hour I complimented her upon the pleasing appearance of this room. Photographs, pictures, flowers, and a divan (upon which were placed silk and embroidered cushions) were artistically arranged, the carpet was very soft and everything seemed calculated to create an agreeable impression and to make one feel at ease. Mrs. Stetson, in answer to my compliment, said it was a principle in Christian Science to arrange a patient's environment so that the senses would be pleased and gratified. Cleanliness, good order, and all other wholesome conditions were a means to an end—"they helped, though in a minor way, to cure the patient."

Mrs. Stetson kindly appointed a time several days later for me to call again. In the meantime I prepared a number of questions; Mrs. Stetson preferred not to answer these questions herself but arranged to send them to the Reverend Mary Baker G. Eddy, the *Mother* of the Christian Science Church. This was done through the agency of a Mr. Metcalf. I wrote a letter to Mrs. Eddy which accompanied the questions. There were in all some twenty-eight, among which it was asked if the treatment of the sick is a part of Christian Science; upon what principle the Christian Scientists' method of teaching the sick is founded; how the Christian Scientist defines health; how the Christian Scientist defines disease; if, on the patient presenting himself, the causes of his disease are inquired into; if symptoms are investigated; if post-mortem examinations are made; if diagnoses are made; if material substances (drugs) are administered to the patient; how a patient is treated; what is done in infectious diseases; if Christian Science can, without the administration of drugs, cure patients in whom the structure of the organs is diseased; if surgical injuries, such as fractures of bones, are treated "in Christian Science;" if animals, when they become sick, can be cured by Christian Science, etc.

I received no reply from Mrs. Eddy, but Mrs. Stetson informed me the matter had been referred to Mrs. Eddy's counsel, Septimus J. Hanna, Esq., of Boston, Mass. Judge Hanna sent Mrs. Stetson a letter on the subject, which Mrs. Stetson kindly turned over to me with permission to use it as I should see fit. A copy of this letter follows:

"Editorial Office of THE CHRISTIAN SCIENCE JOURNAL,
"95 Falmouth St.
"BOSTON, MASS., November 18, 1898.

"MRS. A. E. STETSON,
"New York City.

"DEAR SISTER:—Mr. Metcalf handed me the questions submitted by Dr. Huber. I have also received and carefully read your letters. As I think Mr. Metcalf has informed you this matter was referred to me from Concord. I have been so very busy that I have not had time to give this matter the thorough attention it needs until now.

"I have carefully read and considered the entire paper. My conclusion is that it will be wholly impractical, indeed, I may say, impossible to answer these questions in such a manner as to make an entire paper fit for publication in a medical journal, or in any other magazine or periodical. The questions submitted touch the entire subject of Christian Science both in its theology and ther-

apeutics. These questions can be answered only in one way, so that they can be understood; and that is by just such study of the Bible and "Science and Health, with Key to the Scriptures" as the earnest, sincere Christian Scientists are giving them every day of their lives and have been for years. When we think of the helps provided by our leader, the Rev. Mary Baker Eddy, for her own students in arriving at a correct interpretation and putting into practice the teachings of these text-books, such as the publications established by her, the Bible lessons made up of selections from the Bible, and our text-book constituting the sermons for our study in all the Christian Science churches, the many auxiliaries she has published and is publishing in further illuclucidation (*sic*) of the text-books; when we stop to consider that even those of her students who may be considered the most advanced are yet mere infants in the understanding and ability to demonstrate the truth contained in these text-books, can we not easily see, and will not your friend, the doctor, at a glance, see the utter futility of attempting to answer his questions so as to make the answers intelligible to the medical profession and their readers? I admire greatly the kindly spirit manifested by the doctor and those for whom he is acting and the entire fairness, from their standpoint, of the questions submitted, but this does not relieve the difficulty of the situation. I therefore return the doctor's questions with many thanks in behalf of our leader and the cause for the impartial spirit manifested.

"Yours in truth,

"S. J. HANNA."

I wish, in passing, to state that I have put the question "Do you isolate a patient suffering from an infectious disease?" many times to many Christian Scientists. I consider this question simplicity itself and I think any sane person possessed of merely rudimentary honesty should be able at once to answer it intelligently and satisfactorily. But so profound is this "Science" and so spiritualized are its devotees that I have not been able to obtain from any one of these people a straightforward answer. No doubt Judge Hanna, being a lawyer, could, if he chose, tell the reason why he who asks such a question as this would have to spend months or years in Nirvana-like abstraction before he would be able to appreciate an answer to it.

He who would be a good Christian Scientist must have in his possession the Bible and the book, entitled "Science and Health, with Key to the Scriptures." If he would be a good Christian Scientist "Science and Health" must be his *vade mecum*. As he reads this book he is likely to be compelled to stop several times at every page and meditate upon what he has read. At the end of his meditation the passage will probably be no clearer to him than when he began to think. Mrs. Eddy has therefore provided other works to explain the statements made in "Science and Health." There are at least twelve such works, or collections of works, comprising books, pamphlets, and sermons, and ranging in price from 20 cents for a sermon to $6 for a book. Everything of a copyrightable nature which I have seen, including Mrs. Eddy's photograph, has been copyrighted. In some instances the truth can be had by the job-lot and at correspondingly reduced rates, as one copy of a pamphlet for 50 cents and twelve copies for $4.50. Many of these works have passed through a number of editions. I took a copy of "Science and Health" to the rooms of the American Bible Society in Astor Place, New York City. This society is engaged in the endeavor to disseminate truth solely for truth's sake. This one book ("Science and Health, with Key to the Scriptures") costs $3 over a book-store counter. It has now passed through at least 153 editions. I showed this book to the gentleman in charge at the Bible Society. He produced a Bible similar to this book as regards type, paper, binding, etc., the essential difference in make-up between the two being that there are 651 pages in "Science and Health" and 1285 pages in the Bible. It costs less than 40 cents to put this Bible on the book-store shelf; and the Bible Society sells it for 50 cents. This society gives a discount of ten per cent. from its list prices to auxiliary societies and to dealers in books.

I am told that Mrs. Eddy had to borrow the money with which to publish the first edition of this book, and that she is now a millionaire. On the most conservative estimate this statement seems altogether credible. Mrs. Eddy, at all events, must have found extremely remunerative the business of elucidating (?) the truths set forth by the poor Nazarene. Besides Mrs. Eddy there are those among her followers who have produced works on Christian Science; these works (which are not presented to truth seekers) are not to be studied by the faithful unless they bear the stamp of Mrs. Eddy's approval and they are not used in the various classes unless by her permission. The mercenary motives underlying this movement will be further commented upon in the course of this paper.

I have been present at several "experience meetings" in the Christian Science churches. There is an organ prelude, then a reading from the Bible, after which comes the reading of an extract from "Science and Health." A discourse follows, several hymns are sung, and finally a number of people rise from their seats and relate how they have been treated, or, in their opinion cured "in Christian Science." There is no benediction. In the audience women were greatly in the majority; I counted in one gallery twenty-nine people of whom twenty-five were women. These meetings were held in the evening. There are said to be about 3000 Christian Scientists in and about New York City. There are seven churches in the Greater New York, four of which are in the Borough of Manhattan. These four are located as follows: (1) At 143 West Forty-eighth street; (2) in West Eighty-Second street, between the Boulevard and West End avenue; (3) 80 West One Hundred and Twenty-sixth street, and (4) now situated on the corner of Twenty-ninth street and Madison avenue, for which a new building is being erected on the corner of Eighty-sixth street and Central Park West. The "pastors," or "first readers" as they are also called, of these four churches are all women, at least one of whom enters the pulpit gowned and bediamonded as for a social function. These churches are, then, in the neighborhood of the well-to-do; there

are, so far as I know, no mission churches in the poorer parts of the city, and it does not seem to be the endeavor of those at the head of the movement to carry the blessings of "Christian Science" among the poor. Indeed it is a tenet in Christian Science that one has no business to be poor. All the Christian Scientists I have met and seen appear to be above actual want and some of them are evidently very wealthy.

I find among these people very few of the very young men and women; this I would explain on the assumption that youth is likely to be normal in its mentality. On the other hand I have seen many in middle and in advanced life who seem to me to have in their earlier years found it difficult to conform their minds and bodies to the universal scheme; who have probably found it irksome to live in accordance with Nature's laws; who have as a result, been unhappy and dissatisfied with life; who have taken up, one after another, faith-cure, theosophy, spiritualism, etc., and are now trying Christian Science as the latest of these fads, to cast it aside in its turn as soon as they find it as great a delusion as its predecessors. These people are no doubt especially numerous in these times of unsettled problems and of unphysiologic living. I have, indeed, met a number of people who *have been* Christian Scientists, and who rather pathetically state that they have found this movement as illusory as any other of its kind.

Every Christian Scientist, every little child even, can be a "healer" in Christian Science. The treatment is carried on by means of thinking, speaking, or writing. No material substances are prescribed (so I am told) and no topical applications of any sort are employed, indeed, the administration of drugs would render ineffectual the healer's efforts. The treatment is alleged to be purely mental. Some, but not all healers, take obstetrical cases; however, it seems generally preferable to have a physician called in to deliver the child and the placenta, but he is not permitted to do any more than this. While the physician is thus engaged the healer stands by the patient's bedside and thinks. The healer charges fees for his services the same as the physician does. It costs to be healed in Christian Science!

The healer need not know what the patient complains of, but the patient may, if he wishes, "put in a claim," that is, he may tell what is the matter with him. To the healer, however, it makes no difference whether the patient tells or does not tell what he suffers. The latter, moreover, does not need to be with the patient (*vide* "Science and Health"). This is an undoubted convenience from the healer's point of view, all the more for the reason that the Christian Scientist charges a fee for each treatment whether he be with the patient or not. In the middle of the night a friend of the patient may go, or may telephone for that matter, to the healer's house and inform him that the patient is ill. The healer may then, while lying on his back in his own bed, treat the patient "absently." The healer may treat absently by letter no matter at what distance. Furthermore, the healer may, without knowing it, cure in the patient a malady other than the one from which he is given to understand the patient is suffering. For example, a female Christian Scientist living in this city treated "absently" a young woman living in the northern part of New York State for irregular menses. This disorder was healed. Then the delighted young woman informed the healer by letter that she had not mentioned the fact that she had been deaf; but she could now hear, thanks to the treatment she had received from her distant Christian Science healer.

Some patients are cured in one treatment, others require a number of treatments; in some cases the patients are a long time, months or years, as long, in fact, as they remain credulous, under treatment before they are cured or discouraged into seeking other methods. The more powerful healers attempt to dissipate tumors, cancers, and various surgical diseases. Mrs. Eddy can cure anything; for instance, she has healed in one sitting a cancer which had eaten down to the jugular vein; she does not trouble herself to supply for investigation the names, addresses, etc., of such subjects. But who could expect the "Mother" of this "church" to descend to such petty details! However, among the rank and file there seems to be some difficulty about the healing of surgical diseases; in fact it is acknowledged that at present the treatment of such diseases by the ordinary healer is rather unsatisfactory, although it has been reported (among other interesting statements) that a short leg has been made long by means of Christian-Science treatment.

Here an observation may, very humbly of course, be ventured. The Christian Scientist holds that "all is mind; there is no matter." Now the benighted outsider would arrive at what he would consider the logical conclusion that if this is so it should be as easy to dispose of a fractured skull as of an attack of hysteria and that (it being unnecessary according to the Christian-Science dictum to take into consideration the varying densities of tissues) it should take no longer to cure a cancer than to cure a bilious headache. But to this the Christian Scientist would say that Christian Science is still very young and that its adherents have not yet been sufficiently saturated with "the truth" to be able to overcome the greater difficulties. In the course of time, however, the more stubborn diseases will succumb—nay, the time will come when the dead will be taken by the hand and raised from out their coffins (again *vide* "Science and Health").

Christian Science can also make sick animals well; in these cases the cure is achieved by thinking or talking, and it is alleged that no material remedies are used.

I am informed that at the end of a course of study in Christian Science the student is given the following formula which he is to use in treating disease. For instance, the patient "Kate" has a cough; she is thus mentally addressed: "Kate, you are not sick and you know it. There is no matter, therefore matter cannot pain. You are a child of God, who gave you the power to govern your present condition. But you are not aware of it. Therefore I, who manifest God, I, who reflect the Divine idea, I, who am a follower of Christ, who said "Verily, verily I say unto you, the same things which you see me do now, those will do that believe in me, and even more." I, who do not *believe* but *know* that nothing can stand up before

infinite mind, I say that cough which troubles you must go. Get thee behind me and dissolve thyself into nothingness whence thou comest, for thou art nothing but the work of mortal mind, which itself is only the upper stratum of matter which exists not." I am told also that the healer may, if he wishes, speak this formula while treating the patient.

(To be continued.)

THERAPEUTIC NOTES.

Nosophen and Nosophen Gauze.—HORACE TRACEY HANKS (*American Gynecological and Obstetrical Journal*, December, 1898) renews his favorable opinion regarding this medicinal substance in gynecological work. After an experience of nearly four years with nosophen he believes that it has virtues equal to those of iodoform. It has the additional advantage of being free from odor. He commends it for its efficiency in preventing excessive and rapid suppuration in all abrasions and on all raw surfaces after curettage, when this procedure is applied for endometritis or for removing the débris of an abortion. The nosophen gauze is also efficient as a dressing for abdominal wounds.

Colloidal Silver and Blood Poisoning.—WERLER (*Deut. med. Wochenschr.*, October 6, 1898) has convinced himself that Credé's last soluble silver salt, which bears the name of colloid silver, is a specific for sepsis. It is administered not in solution by the mouth, but in the form of inunctions, the salve employed containing 15 per cent. of the soluble silver, about 15 grains of such an ointment being rubbed into the skin of the chest or back every night. Improvement in the general condition, in the cases of surgical sepsis from minor wounds which Werler reports, occurred after only one inunction had been made. In order to effect a cure, however, it is necessary to repeat the treatment from five to twenty times according to the nature of the case, those conditions which are chronic requiring a longer course of treatment. Locally a wet dressing of silver citrate, 1 to 4000, was employed. Unfortunately in all of the cases reported by this observer, the focus of infection had found its way to the surface of the body at about the time that treatment was begun, so that it is open to question whether the subsidence of general symptoms was not dependent upon this fact. In the treatment of chronic furunculosis, the use of the silver salve was eminently satisfactory.

Urotropin in the Treatment of Cystitis. — KELLY (*Therapist*, October 15, 1898) realizing that cystitis is due to the invasion of the bladder by micro-organisms, says that the first indication for treatment is to render the urine antiseptic. For this purpose he has tried with a certain amount of success, salol, ammonium benzoate, guaiacol, resorcin, benzo-naphthol, sodium salicylate, creasote and other preparations. They are all helpful in making the urine antiseptic, but no one of them has given him the complete satisfaction which he has had from the use of urotropin, a non-toxic and non-irritating derivative of formic aldehyd. It is formed by the action of four molecules of ammonia on six molecules of formaldehyd, and was first introduced to the profession by Nicolair in 1895, who asserted that it possessed the power of dissolving uric-acid concretions and also that taken *per ora*, it prevented the development of bacteria in the urine. In cases of phosphaturia and cystitis its action is almost a specific one. It appears in the urine as early as fifteen minutes after its administration, and its presence can be recognized twelve hours later after a dose of 7½ grains. It is soluble in 1.2 parts of water at 68° F., and the reaction of its solution is faintly alkaline.

If the condition of the patient is a very bad one large dose of the drug should be given, as much as 20 grains twice a day; and if the urine is strongly alkaline, a little dilute mineral acid should also be given until the reaction is improved. Kelly gave these remedies to a man aged thirty-five years who had suffered for a long time with cystitis. Nine days from the beginning of treatment the urine became clear and slightly acid, and in fourteen days it was free from pus. This was the first time in fifteen years that he had passed clear urine. The dose of the urotropin was gradually diminished, and discontinued altogether in a couple of months. There was no return of the trouble.

Epistaxis Cured by Poultices.—ROCHE (*Brit. Med. Jour.*, December 10, 1898) has used with success for stopping a nose-bleed a very hot poultice on the back of the neck. This simple treatment has never failed him, and has succeeded in a number of instances when other remedies, such as compression, ice, and astringents, had failed to stop the bleeding.

Foreign Body in the Trachea Removed by Intubation.—SEVESTRE (*Zeit. f. prak. Aerzte*, November 28, 1898) passed a laryngeal tube into the throat of a five-year old girl who had swallowed a glass bead about a third of an inch long and half as broad, and who suffered from attacks of asphyxia. In case the intubation had failed, it was to have been followed by a tracheotomy. Some minutes after the tube was in place, the foreign body was coughed out. It had lain in the trachea for more than six weeks.

Suture of Wounds in Veins.—SCHULTES (*Deut. Zeit. f. Chir.*, vol. 49, p. 624) says that the suture of a wound in the side of a large vein has so many advantages over the other methods of treatment of this accident, such as compression, lateral ligature, or the application of a clamp, that it is the only permissible procedure. Compression almost certainly produces thrombosis, a lateral ligature is likely to slip off, and clamping by no means insures the union of the edges of the wound in the vein. All of these disadvantages are avoided by the suture of the rent. Of the twenty-six reported cases of patients treated in this way, twenty-three recovered without complication, and death in the other three instances was in no way due to the venous suture.

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SATURDAY, JANUARY 21, 1899.

AN INVESTIGATION OF CHRISTIAN SCIENCE.

THE somewhat sudden appearance in this country of the cult known as Christian Scientists and the aggressive attitude shown by its disciples in the practice of "healing the sick" for hire has naturally aroused the opposition of the medical profession. This opposition, however, has been stimulated thus far by the natural instinct of saving the innocent and credulous from what ostensibly appeared to be the workings of a religious mania. Nothing, however, was definitely known of the foundation of this belief or the history of its organization. In order that the medical profession might have placed in its hands definite and complete knowledge of the basis upon which the claims of this sect are founded, the MEDICAL NEWS deemed it wise to institute a careful investigation. Dr. John B. Huber of New York kindly undertook the task and, after a careful and conscientious study of the subject, involving much time and arduous labor during the past three months, now presents to the readers of the MEDICAL NEWS the results of his searching inquiries.

No effort has been made to discuss this cult as a psychologic system. The investigation has been confined to an examination of the Christian-Scientists' method of treating the sick and of the results claimed and obtained in its application. In pursuance of this plan, twenty cases of people treated "in Christian Science" have been personally investigated and all the facts conscientiously recorded. So far as we know, this is the first attempt that has been made to investigate and follow carefully to their conclusion a series of cases designated by the Christian Scientists themselves as illustrative of the success of their work. The report of Dr. Huber sets forth the facts as he found them in each case. It gives an interesting and instructive picture of the disingenuousness of the leaders of this doctrine and reveals the emptiness of their pretensions as applied to the healing of the sick.

In an address delivered recently at a Christian-Science meeting in Brooklyn the statement was made that there are seven Christian Scientist churches in Greater New York and thirteen in the immediate vicinity, thirty-eight churches and congregations in the State of New York, and about thirty thousand adherents of the faith in the State. It was also claimed that there are one million Christian Scientists in this country. If this is true, it is time that a little sunlight of well-founded knowledge should be shed upon the mercenary motives and religious hypocrisy of the originators of the sect, their criminal responsibility for many deaths, and the utter emptiness of their claims when practically applied.

MEDICAL ADVERTISING FRAUDS.

IN one of the large department stores in a neighboring city, where one may find "all things needful from the cradle to the grave" (see advertisement), the employee who fits glasses in the most approved style and without charge was recently seen attracting custom to the store by examining the eyes of a presumable patient, but probably a fellow-clerk, in one of the large windows. His maneuvers soon drew a crowd, and doubtless many went away with a fixed purpose of soon submitting to the scientific investigation of the operation. The fact that he was using a head mirror with the light behind him instead of in front of him and that it is not easy to detect an error of refraction with a four-inch concave mirror did not inspire the passerby so forcibly as did the array of instruments displayed, including an ophthalmometer and compressed-air apparatus, and the

assumed look of intelligence upon the operator's face.

We are all familiar with the old clergyman and retired missionary who has a sure cure for consumption and who, in his gratitude for restoration to health, is anxious to send free the formula which has cured him. As well do we know that when this formula comes it will contain one or more ingredients which cannot be supplied by any druggist—and even the department store is unable to fill the order. When we write to this generous clergyman he informs us that the drug in question is very rare. It should be kept, however, by all first-class druggists but, if we have difficulty in obtaining it, for a few dollars he will send a supply of the medicine, and in the meantime he will find out why our druggists are so lax in this respect.

And now comes a supposedly reputable firm of manufacturing pharmacists which is trying to bunco the profession in a similar manner. A circular is sent broadcast extolling the virtues of a drug which cures cataract by stimulation of the absorbents and a dissolution of the opaque matter in the crystalline lens or its capsule. Appended to the report are a number of glowing testimonials, and there follows this note: "We will be pleased to furnish the address of any of the physicians whose testimony is given in the foregoing on request." Somewhat interested in this matter a request was made for the addresses of the physicians and it elicited the following circular letter:

We are in receipt of your favor of recent date, and pleased to know you are interested in ——. While we could refer you to a number of physicians who have used this remedy successfully, they have recently had so many letters, on account of our publishing their names in our circulars, you would probably not receive a reply for some time as, of course, they are very busy and could not answer all of them. Dr. —— of —— avenue, this city, has made a special study of —— in the treatment of cataract, and if you would address him, he could, no doubt, give you some information. We trust you will give the remedy a trial as, from the reports we have received from physicians who have used it, it certainly has done much good, and is worthy of a trial.

The four testimonials appended and presumably from medical men are from these sources, according to Polk (1898): The first is a resident of a parish in Louisiana with a population of 30. The next two are not found at all, but the fourth name appears twice. The first is a professor of gynecology in a Western city, the second a specialist in female troubles and private diseases. Evidently if cataracts are to be intelligently treated by such men we will have to revise our etiology of the disease. The one man whose name is given is a graduate of a homeopathic institution of but a few years' standing, and is in the employ of the concern.

It is an insult to the profession to ask its members to essay a trial of any therapeutic measure upon such testimony, and is another bit of evidence that the whole system of testimonials and testimonial-giving is clap-trap and a fraud.

PROFESSOR BEHRING AND HIS REWARDS IN GERMANY.

IT is announced that Professor Behring and Dr. Ruppel of the University of Marburg have applied for a German patent for a serum to be used in the treatment of tuberculosis. According to the wording of the application, what the inventors claim to have discovered is "a method of preparing from tubercle bacilli or from cultures containing tubercle bacilli, a highly toxic substance capable of producing immunity to the effects of the tubercle bacilli."

When his application for an American patent for diphtheria serum caused such vigorous protest on the part of the medical press all over the world, Behring said that the rewards of a medical investigator were so small in Germany if he followed the beaten paths of medical custom in giving his discoveries to the world, that he had made up his mind to break with precedent in the matter and reap, if possible, the commercial advantages of exclusive rights in his remedy. In the light of what our foreign correspondent wrote after a visit to Marburg (MEDICAL NEWS, May 4, 1898), it is easy to see how flimsy is Behring's excuse for entering the commercial field under the banner of the Höchst Farbwerke.

Shortly after the importance of his discovery became assured, Behring received the call to the Chair of Hygiene at Marburg. The salary is not princely; no German university Professor's is. Owing to peculiar conditions, however, and to the fact that Prussia confiscated the revenues of the Duchy in 1866, and that it has been the constant effort of the Prussian government to keep Marburg on a higher

plane than the rival and neighboring University of Giessen in the Duchy of Hesse, Marburg has been especially favored among the Prussian universities, and has always had an ample revenue. A magnificent set of laboratories is located here, of which Behring's is not the most poorly equipped. In his position he has had the privilege of an assistant, to whom he might delegate practically all the drudgery of teaching, reserving his own time for the more important work of investigation.

Most scientific investigators would be apt to consider this ideal. Marburg is beautifully situated in the valley of the Lahn. It rivals in the picturesqueness of its situation though not, perhaps in historic associations, the far-famed Heidelberg, or Bonn, or Jena. All this surely was no unsubstantial reward for Behring's part in the serum discovery. Then he became the diphtheria-antitoxin expert for the Höchst manufactory, a huge concern which employs some 9000 men, mostly in the manufacture of dyes from coal-tar. In connection with this they manufacture coal-tar derivative products for use in medicine. It is this concern which owned the antipyrin patent, in which there has been millions, and it is its success with this that has tempted it into the antitoxin field. Shortly after Behring's connection with the Höchst concern began he erected a laboratory on the heights overlooking Marburg. It is most picturesquely situated above the town, and is itself an imposing granite building of striking beauty architecturally. It is here that of late most of his investigations have been carried on, though his apparatus for evaporation of tubercle-bacilli cultures without the destruction of the bacilli, by means of vacuum chambers, is at the university laboratory down in the town.

To pretend that a man situated like this *needs* to violate all the principles which so far the profession has kept sacred is carrying the plea to too great length. It is plain that it is the money-making side of the question alone that has influenced the medical scientist to depart from a consecrated usage to ask for exclusive rights in the sale of his remedies. Every medical man is bound, then, to oppose as far as he is able, the grasping spirit it implies. Not alone the present issue is at stake but the profession must give a lesson which will impress others who may become inoculated with the commercialism so rife at present. It is quite within the range of possibility that a thoroughgoing inflammatory reaction in the body medical now would produce enough mercenary antitoxin to make its members immune against attacks from this insinuating microbe for some time to come.

THE SUCCESS OF GALL-STONE SURGERY.

THE fact that any one surgeon has performed one-hundred operations for gall-stones is in itself quite worthy of mention. But a German surgeon named Kehr has the remarkable record of 360 laparotomies of this character, 151 of them being performed in the last two years. Kehr lives on the north side of the Hartz Mountains, in Halberstadt, a town of less than 40,000 inhabitants, which up to the present time has been familiar to American doctors chiefly on account of its curiously carved wooden houses, some of which date back to the Fourteenth Century. It is not much more than one hundred miles from Berlin, and the whispers of jealous colleagues must have reached the ear of Hans Kehr, for he feels obliged to explain why he should be called upon to operate upon patients suffering from gall-stones at the rate of six a month, while his more celebrated professional brethren in the larger cities have to content their souls with a dozen cases a year. The reason given is that the physicians in the region about his town have become very proficient in making the diagnosis of gall-stones, and knowing the good results which follow an operation done in the early stages of this trouble, they lose no time in persuading their patients to go to Kehr. The difference between German methods and our own is strikingly illustrated by the fact that one physician who has been especially successful in getting his patients to submit to operation, backs up his advice by the withdrawal of morphin in case the patient does not agree with him. This measure, he says, is well-calculated to help the patient decide upon an operation.

However, the results obtained by operation are so good that it seems allowable to resort to almost any measures to induce the patient to agree to the removal of his gall-stones; and the low mortality and permanency of cure are of course the chief reasons why Kehr has been able to go on performing these operations at an ever-increasing rate. He numbers

among his patients people from all Europe, as well as from the various German provinces.

The mortality in these 360 cases, irrespective of the condition of the patient at the time of the operation, is 11.7 per cent. If deaths from other causes, such as carcinoma, suppurative cholangitis already advanced at the time of operation, and complicating operations, such as gastro enterostomy, are omitted, there remains only twelve deaths in 327 laparotomies, or 3.8 per cent. mortality. That is, indeed, a low figure for an operation which is at best a difficult one, and which often requires three or four hours for its completion. But the results in some special classes of cases are even better. Thus cystostomy was performed upon 180 patients who had stone in the cystic duct or in the bladder. Only three of these patients died, in all of whom it was found impossible to suture the gall-bladder to the parietal peritoneum.

Kehr believes in making the details of operation as simple as possible. He has only one assistant and one nurse. No gloves are worn, but one-half hour is spent in sterilizing the hands, and occasionally during the operation the hands are washed with bichlorid and normal salt solutions.

Kehr's article is full of suggestions, and is heartily recommended to every surgeon. It is No. 225 in *Volkmann's klinische Vortraege*. He emphasises the importance of determining before operation not only the presence of a gall-stone, but its exact situation. Thus, if there are impacted stones in the common duct, it would be the worst treatment in the world to open the gall-bladder and so destroy the pressure of bile which, if left to itself, might drive the gall-stones forward into the intestine. He never operates, therefore, on a patient in an acute attack of closure of the common duct. He never operates upon carcinoma of the common duct or pancreas; at most, nothing more than an exploratory laparotomy is done in order to make sure of the diagnosis. Patients over sixty years of age who have jaundice and slight colic may be considered in most cases to have carcinoma.

Slight distention of the gall-bladder after some operations causes a spasm of its walls and pain. This occurs when the patient is fasting. It is of benefit to give such a patient a meal even in the middle of the night, as the presence of the food causes the bile to flow into the intestine instead of into the bladder. The "ideal" operation, that is, suture of the gall-bladder and its return to the peritoneal cavity, is risky, and its originator, Czerny has abandoned it. The drainage of the bladder for a few days is a help toward recovery and not a drawback.

Kehr takes a bright view of the future of gall-stone surgery, and it is not to be wondered at that he does. His figures are as good as, or better than, those obtained in the operative treatment of appendicitis. Autopsies show that great numbers of people have gall-stones without having suspected it. The proportion is at least one in thirty, and some counts make it as much as one in ten. Undoubtedly, most of these persons have at some time suffered from symptoms, the cause of which was not recognized by them or their medical attendants. With the popularization of this subject, and the finer differentiation of abdominal pains by the profession and laity alike, it is not unreasonable to suppose that ten years hence cholecystostomy and choledochotomy may be as frequently performed as appendectomy is to-day.

ECHOES AND NEWS.

Dr. Quinlan's Appointment.—Dr. Francis J. Quinlan of this city has been appointed Laryngologist and Rhinologist to Charity (City) Hospital, Blackwell's Island, by order of the Commissioner of Charity.

Psittacosis.—This infectious pneumonia spread by parrots has broken out again in a number of Italian towns. Some years ago it prevailed quite extensively, but decrees of municipal authorities forbidding the keeping of parrots in private houses put an end to the epidemic.

Associated Physicians of Long Island.—The regular annual meeting of this society will be held Saturday, January 21st, at the Union League Club, Brooklyn. The scientific session is scheduled for three o'clock in the afternoon, and in the evening dinner will be served at seven.

Health in Havana Camps.—Up to this writing there are three cases of suspected smallpox in the 161st Indiana Regiment. The sick are carefully isolated, and the entire regiment remain in quarantine inside the regimental camp limits. There are 119 men in the general hospital.

Revolt against Contract Medical Service.—The physicians of Oneida, N. Y., have banded together to compel the town to pay regular rates for professional visits to the

town paupers. Every doctor in town signed a paper agreeing not to bid as heretofore for the contract to care for the sick paupers, and an advertisement asking for bids has met with no response. This action is one of the symptoms of a growing revolt among the doctors up the State against contract medical service either for municipalities or for benefit societies.

Another Dispensary Bill.—It is possible that at last the abuse of medical charities in this State is to be controlled if not corrected. Although the Sullivan dispensary bill was defeated at Albany last winter, the necessity for reform was admitted on all sides. A bill has been agreed upon for introduction into the Legislature by representatives of the three State medical societies and the dispensaries, which, if it becomes a law, will in great measure correct the evils now existing. The dispensary committee are T. L. Frothingham, Esq., Dr. D. B. St. John Roosa, and J. G. Cannon, Esq.

Dangers of Tuberculosis.—The report of the special committee of the New York State Senate to investigate the spread of tuberculosis, the establishment of better sanitary conditions for consumptives and the protection of the public has been presented. It finds that consumption is contagious, and recommends that the State establish a hospital or hospitals for the treatment of cases of tuberculosis, the same to be located somewhere in the forest preserve in the Adirondack Mountains, the site to be selected by the trustees approved by the Forest Preserve Board. An accompanying bill provides for an appropriation of $200,000, the appointment of a commission to locate a site (the Governor to appoint), and the appointment of examining physicians, two in number, in each of the cities of New York, Buffalo, and Syracuse to examine patients and commit them by certificate. Patients able to pay, or having relatives able, must do so. A resolution was also offered that 4000 copies of the report be printed for distribution.

Dr. Charles W. McManus.—The Medical Board of the Willard Parker and Riverside Hospitals, having learned with profound regret of the death on January 5, 1899, of Dr. Charles W. McManus, late Interne Physician to the Hospitals, the following preamble and resolutions were unanimously adopted:

WHEREAS, It has pleased the Almighty to remove by death Dr. Charles W. McManus, Interne Physician to these hospitals, and

WHEREAS, Dr. McManus has made for himself in our hospitals an enviable record for conscientious and painstaking work and unremitting zeal in the performance of his duties, and has gained the esteem and affection of his colleagues by his admirable qualities, therefore, be it

Resolved, That this Board deeply regrets the cutting short of so promising a career at the very beginning of professional life; and be it

Resolved, That we offer to the father of Dr. McManus our deep sympathy in the terrible loss he has sustained in the death of this his only son; furthermore, be it

Resolved, That a copy of these resolutions be transmitted to the Board of Health, the father of the deceased, the medical journals, and spread in full upon the minutes of this meeting.

DR. JOHN W. BRANNAN, President.
DR. H. W. BERG, Secretary.

The State Charities of New York.—The State Board of Charities presented its annual report for the year 1898 to the Legislature this week. It states that the inmates and beneficiaries of State and other institutions within the Board's jurisdiction aggregate more than 2,500,000, and the expense of maintenance reaches nearly $22,000,000. Referring to the Dispensary Bill of last year which passed the Senate but was not reported from committee in the Assembly, the report declares: "The Board reiterates its belief that legislation is required to prevent the abuse of medical charities, now so prevalent in New York City, and also the overgrowth of such charities, and hopes that a statute which will be satisfactory to all who are desirous of rectifying such abuses may be enacted." The report of the Special Senate Commission on the spread of tuberculosis was also made and accompanying it was a report upon the spread of tuberculosis in New York City, written by Arthur R. Guerard of New York. Dr. Guerard made a special investigation of the conditions in the Fourth and Sixth Wards. In the Fourth Ward, with a population of 18,323, there are 663 dwellings and an average of 27.6 persons to each house. In 248 out of the 663 dwellings tuberculosis was found, there being in three years 541 cases. The doctor says: "Such houses would seem to be permanently infected and should be thoroughly renovated from top to bottom, or better, condemned and torn down." It must be borne in mind that this report is based upon investigations during 1896. The drastic sanitary measures put in force by the New York Board of Health during and since that year have reduced these percentages somewhat.

Medical Society of the State of New York.—The ninety-third annual meeting of this Society will be held January 31 and February 1 and 2, 1899, in the City Hall, Albany, commencing at 9.15 A.M. on the 31st, and ending at 1 P.M. on the 2d. Preliminary program: Tuesday Morning Session. President's inaugural address; reports of officers and committees; executive business. I. "Fracture of the Cervical Vertebræ, with Specimen," Chauncy P. Biggs, Ithaca. II. "An Unusual Injury to the Kidney, with Specimen," W. D. Garlock, Little Falls. III. "Formaldehyd Disinfection," W. H. Park, New York. IV. "The Close Relation between the Nasal and the Cranial Cavities, and between Nasal and Cranial Disease," Wm. C. Krauss, Buffalo. V. "The Importance of Early Examination and Treatment of Catarrhal Mouth-Breathing in the Public Schools," Clarence C. Rice, New York. VI. "Some Practical Points in the Diagnosis of the More Common Forms of Nasal Obstruction," Charles N. Cox, Brooklyn. Discussion opened by Robert C. Myles of New York. VII. "Intestinal Resection; Personal Experience," W. L. Cuddeback, Port Jervis. VIII. "The Dangers of the Long Tube Nursing-Bottle," Ernest Wende, Buffalo. IX. "The Detection of Tubercular

Infection in Second-Hand Clothing," Wm. G. Bissell, Buffalo. Election, by districts, of members of the committee of nominations at close of morning session. Tuesday Afternoon Session. X. "The Improvement in General Anesthesia on the Basis of Sleichs' Principle of Adapting the Boiling-Point of the Narcotic to the Temperature of the Body, with Special Reference to Anesthol," Willy Meyer, New York. XI. "How to Treat Shock," R. H. M. Dawbarn, New York. Discussion by Henry Flood, Elmira. XII. "Fever in Aseptic Surgery," B. Farquhar Curtis, New York. XIII. "The Use of Streptococcus Antitoxin in Phlegmonous Inflammations, with a Report of Cases," A. T. Bristow, Brooklyn. XIV. "Puerperal Insanity—a Cursory View for the General Practitioner," Carlos F. Macdonald, Pleasantville. XV. "Military Medicine and Surgery," Tuesday afternoon, 4.15 o'clock. (1) "Hygienic Camps," H. R. Hopkins, Buffalo. (2) "Typhoid Fever in the 7th Army Corps," H. C. DeForest, Brooklyn. (3) "The Character and Treatment of the Gunshot Wounds of the Recent War, with Cases," H. B. Delatour, Brooklyn. (4) "Cardiac Deficiency as Observed in the Soldiers of the Late War," Henry W. Fairbairn, Brooklyn. Discussion by A. Vander Veer and W. W. Potter. Tuesday Evening Session: XVI. "The Relations of Preventive Medicines to Political Economy," George W. Brush, Brooklyn. XVII. "The Relation of the Consumptive to the State," John H. Pryor, Buffalo. XVIII. "Microscopic Projection," William Hailes, Jr., Albany. XIX. "The X-Ray from the Static Machine, and Some Practical Points in Medicine and Surgery," Louis A. Weigel, Rochester. XX. "Skin Diseases," illustrated, G. W. Wende, Buffalo. XXI. "Needle in the Knee-Joint; Suppuration; X-ray; Operation; Cure," William Maddren, Brooklyn. Wednesday Morning Session, Section in General Medicine, Supervisors' Chamber, City Hall: I. "Acute Gastro-Intestinal Rheumatism," Glenworth R. Butler, Brooklyn. II. "Chlorin in the Treatment of Enteric Fever," R. W. Wilcox, New York. III. "Poliomyelitis Anterior Acuta in Children over Five Years, with Cases," Charles Mason, Peekskill. IV. "The Treatment of Exophthalmic Goiter by Galvanism," H. DeV. Pratt, Elmira. V. "Hysteria," Landon Carter Gray, New York. VI. "The Nervous System in the Pathogenesis of Albuminuria," J. H. Brownlow, Ogdensburgh. VII. "Arteriosclerosis in Its Bearing on Apoplexy, or Cerebral Hemorrhage and Thrombosis," E. D. Fisher, New York. Wednesday Afternoon Session, General Medicine: VIII. "Tonsorial Hygiene, and State Control of Barber-Shop Sanitation," A. Walter Suiter, Herkimer. IX. "Hydrotherapy in Chronic Diseases," Simon Baruch, New York. X. "Abscess of the Lung; the Clinical Data of Two Successfully Treated Cases," Henry L. Elsner, Syracuse. XI. "Pneumonia in Infants; Diagnosis and Treatment," Wm. P. Northrup, New York. XII. "The Relation of Classical Literature to Medical Education," C. De La Montayne, Port Ewen. XIII. "Nervous Dyspepsia," Grace Peckham Murray, New York. XIV. "Weak Heart," C. M. Rexford, Watertown. XV. "Lithemia," B. C. Loveland, Clifton Springs. Section in General Surgery, Common Council Chamber, City Hall: I. "Two Unique Cases of Vesicovaginal Fistula," John O. Polak, Brooklyn. II. "Operation for the Repair of the Recto-vaginal Septum," Ralph Waldo, New York. III. "The Treatment of Uterine Hemorrhage with Stypticin," Herman J. Boldt, New York. Discussion opened by A. Ross Matheson, Brooklyn. IV. "The Relative Merits of the Different Operations for Uterine Suspension," John B. Harvie, Troy. Discussion opened by A. P. Dudley, New York. V. "The Advantages of the Suprapubic Over Vaginal Celiotomy," J. W. Whitbeck, Rochester. VI. "The Advantages of Vaginal over Suprapubic Celiotomy in Certain Diseases of the Uterus and Appendages," H. T. Williams, Rochester. VII. "The Death-Rate in Abdominal Surgery," W. Gill Wylie, New York. VIII. "The Relations of Movable Kidney and Appendicitis to Each Other, and the Practice of Modern Gynecology," Geo. M. Edebohls, New York. IX. "An Experiment in Ovarian Transplantation," J. H. Glass, Utica. X. "Conservative Treatment in Diseases of the Ovary and Vermiform Appendix," Robert T. Morris, New York. Section in Surgery: XI. "The Management of Lateral Curvature of the Spine," Reginald H. Sayre, New York. XII. "Lateral Curvature and Pott's Disease of the Spine; the Improved Aluminum Corset for Their Treatment," A. M. Phelps, New York. XIII. "Should Tubercular Sinuses Be Treated Surgically or Not?" Virgil P. Gibney, New York. XIV. "The Treatment of Umbilical Hernia," Wm. B. De Garmo, New York. XV. "Diagnosis and Surgical Treatment of Gall-stones, with a Report of Cases," E. W. Mulligan, Rochester. Discussion opened by W. W. Seymour, Troy. XVI. "Intra-ocular Tumors; Their Frequency, Prognosis, and Treatment, with Specimens," Herman Knapp, New York. XVII. "The Present Operation for Senile Cataract," D. B. St. John Roosa, New York. Discussion opened by Peter A. Callan, New York. XVIII. "The Surgery of Mammary Cancer," Daniel Lewis, New York. XIX. "Further Study into the Nature and Frequency of Cancer," Roswell Park, Buffalo. Discussion opened by Joseph D. Bryant, New York, and H. R. Gaylord, Buffalo. Joint Session of Sections to Hear Addresses: "Some Problems Associated with Typhoid Fever," William Osler, Baltimore, Md. "The Disinfection of the Alimentary Canal," Abraham Jacobi, New York. Wednesday Evening Session: Anniversary address by the president; annual dinner. Thursday Morning Session; Business Session and Reports of Committees: I. "A Suture Material Suitable for Abdominal Surgery," R. J. Wilding, Malone. II. "A New Lap-Suture in Abdominal Surgery," Wm. E. Butler, Brooklyn. III. "The Treatment of Boils and Carbuncles," Wm. O. Stillman, Albany. IV. "The Limitations of Surgical Work in Country Practice," Geo. M. McComb, Frankfort. V. "The Differentiation of the Chronic Forms of Rheumatism," Louis F. Bishop, New York. VI. "Life Insurance from a Professional Standpoint," Josiah Hasbrouck, Port Ewen. VII. "An Additional Reason for Requiring in Almshouses Measures for the Prevention of Purulent Ophthalmia in Infancy," Lucien

Howe, Buffalo. VIII. "The Scientific Aspect of the Mind Cure," S. A. Russell, Poughkeepsie.

SPECIAL ARTICLES.

THE PRESENT STATUS OF OPINION UPON THE USE OF QUININ IN MALARIA— A REPLY TO DR. HARE.

IN the MEDICAL NEWS for January 7, 1899, we published a letter from Dr. Deffenbaugh of St. Joseph, Mo., criticizing a special article under the above title in the NEWS for December 17, 1898. He substantially agrees with the views put forth in our article but thinks that as certain conclusions therein stated are still in doubt they should not be expressed so dogmatically. In extenuation of what we are ready to admit is a dogmatic declaration on our part, *viz.:* that quinin should be used in every case of acute malarial manifestation, no matter what its type or what complication may be present, albuminuria, nephritis, hematuria, or hemoglobinuria, provided such complication is malarial in origin, the following consideration is submitted. It is a condition not a theory that the general practitioner faces in treating a case of malaria accompanied by such complications. Recent discussion and ill-advised editorial comment had made, we felt sure, many a practitioner hitherto confident in the efficacy of quinin, skeptical about its use in cases in which these complications occurred. For him we looked up the authorities on the subject and having quoted Osler and Laveran, Bacelli, and the chief officer of the Royal Niger (Central Africa) Company, we justifiably, as it seems to us, laid down the practical general rule: In malaria always use quinin no matter what the condition. It is clear from the context that we did not have reference to chronic malaria and to mention idiosyncrasies to quinin seemed unnecessary. We were not writing a treatise but drawing a practical conclusion supported by the world's best authorities in malaria for the guidance here and now of the busy practitioner.

In the *Medical Record* for January 7, 1899, Dr. H. A. Hare criticizes "in friendly spirit" our position as to the use of quinin. May we then in the same attitude of friendliness be allowed to reply. With all due respect to Dr. Hare as an authoritative teacher of therapeutics we shall in the interest of truth endeavor to point out the fallibility of his argument and his position on this question as well as substantiate by confirmation from the best authorities the correctness of our own.

Dr. Hare thinks that articles such as ours "will lead the practitioner to prescribe quinin without studying his cases thoroughly and when the condition is really not malaria at all." May we say that our article was on "the use of quinin in malaria," not in other diseases falsely diagnosed as malaria. Dr. Hare says in closing his article that quinin must be "mixed with brains" to get good results. That is all very true, but the poor fellow who begins by missing the diagnosis will probably not have enough of the second ingredient mentioned to be able to spare any of it for the treatment of his patients. Special articles are not written for him and should not be criticized from that standpoint.

Dr. Hare quotes us as saying that "the voices of our Southern medical men, of the medical men of India and of Brazil and Italy are as a unit in favor of the universal use of quinin." This is a misquotation and a serious one. What we said was that they are "a unit against Koch." The statement of Koch that they are especially united against it is explicitly set forth in the preceding paragraph. It is that quinin is given too freely in the tropics and that so-called malarial hemoglobinuria is practically *always caused* by too much quinin. Mark the words *is caused* by quinin, not is made worse by it. The present writer heard that address of Koch and remembers well that Koch said he had never seen hemoglobinuria in a patient unless previously treated by quinin. This is, of course, the expression of a man possessed of a most limited experience in malarial hemoglobinuria and there can be no question of the unity of authoritative sentiment against him.

Dr. Hare then takes up the recent literature upon the use of quinin in hematuric and hemoglobinuric conditions. His second quotation is from *La Presse Medicale* for December 3, 1898. He says "Vincent informs us that American statistics demonstrate that the greater number of patients survive that do not receive quinin." Just what the last part of that sentence may mean is not very clear in its loose English dress; the first part is another serious misquotation. What Vincent says is "Les statistiques de *certains medecines* Americains tendent a montrer" ("The statistics of *certain American* physicians *tend to show*" etc.), quite a different thing from "American statistics demonstate." Vincent himself a little further on in the same article advises the use of quinin in doses of 8 to 15 grains even in the presence of hemoglobinuria. Even supposing the original quotation correct, why go to France for American statistics? And who is Vincent that his opinion on malaria should be quoted so seriously?

Dr. Hare quotes Dr. Meek of Arkansas, who protests in the *Therapeutic Gazette* "in the name of humanity" against the use of quinin in malarial hematuria. "In the name of humanity" is expected to add force we suppose to his protest. But if medical editors would publish them we would have in our medical journals no end of protests "in the name of humanity" and everything sacred, against vaccination, antitoxin, and the use of mercury in syphilis and any other good therapeutic agent that can be named. An English medical editor once said in somewhat Johnsonian style: "Intensity of objurgation in matters therapeutic, whether positive or negative, is usually in inverse ratio to the authority of the man who uses it and usually in inverse ratio also to the value of the suggestion he has to offer. It is only a great authority who can commend or condemn a remedy with a mlid judicial spirit." The old editorial formula has not lost all its application even in our day.

This is what Dr. Meek says: "During the first ten years of my professional life I treated quite a number (six) of cases with large doses of quinin, and the mortality was at least fifty per cent. Since that time I

have treated quite a number (sic iterum) without quinin and the mortality has been eighteen per cent." We scarcely think it invidious criticism to say that statistics with inexact percentage mortalities and indefinite numbers of cases are not very valuable to the seeker after medical truth. Dr. Meek quotes Dr. Guise who treated without quinin four patients with malarial hematuria without a death, after having treated twenty-five patients with quinin with a mortality of fifty per cent. Here is something tangible but the number of cases is so small that no practical conclusion from the result obtained is justifiable.

These we suppose are samples of "the statistics of certain American physicians," quoted by Vincent, that tend to show that the mortality of malarial hematuria is less when treated without quinin.

A number of Greek physicians, Karamitsas, Rizapoulos, Pampoukis, and Chamatianos, are quoted by Dr. Hare as having met with cases of chronic malaria in which quinin caused hematuria whenever administered. We find this same collection of names, with Thomaselli and Carreau, whom Dr. Hare quotes also (perhaps from this identical chapter), in Laveran's book in discussing what the French call *fievre biliaire hemoglobinurique* (bilious hemaglobinuric fever). Now this affection is, in Europe, as Laveran tells us, frequent only in Greece. It is very doubtful if it is ever due to uncomplicated malaria. Various microorganisms have been isolated that have been thought to bear an etiologic relation to it. Vincent's experience with it as reported in the article quoted by Dr. Hare is, we believe, not an unusual one. In only one case out of five was Vincent able to demonstrate the plasmodium malariæ in the blood, and in only two out of five autopsies did he find characteristic lesions of malaria. It is probable that certain cases at least of the affection are not malarial at all. The disease occurs very commonly in tropical countries and it is probable that its careful differentiation from purely malarial forms of hemoglobinuria will do much to set at rest any lingering doubts as to the use of quinin in the latter condition. Meantime, such authorities as Osler, Laveran, Bacelli, and Crosse, the latter having seen a great deal of the disease in Central Africa, advise the use of quinin in hematuria and hemoglobinuria if there are present the symptoms of an acute malarial process.

Finally comes the question of malarial nephritis and the use of quinin during its existence. With regard to the frequency of nephritis after malaria Dr. Hare quotes the statistics of the *Journal of the American Medical Association*. These we have already condemned editorially, because they give an altogether erroneous idea as to the frequency of malarial nephritis. Osler found albumin in the urine of 46.4 per cent. of his patients and Thayer found tube casts in 17.5 per cent. of his patients; but Thayer in summing up as to the occurrence of nephritis after malaria in all the Johns Hopkins cases found that among whites the renal affection occurred in only 1.1 per cent. of the patients. To quote the larger percentages as to albuminuria and tube casts without this conclusion is to give the idea that malaria produces nephritis in one out of every six patients or more instead of about one in a hundred cases. We quoted in our article Rem Picci's statistics of 7000 cases of malaria at Rome with 80 cases of nephritis, exactly the same percentage as Thayer found among the whites in Baltimore. These are evidently reliable data; and very much concern about the possible development of nephritis is not demanded of the practitioner.

There remains the question of quinin irritating the kidneys. Quinin has been given freely in innumerable numbers—millions—of cases and it has never been shown that patients who had taken it nad developed nephritis any oftener than people who had not. Dr. Hare says that he has shown that in toxic doses it leads to inflammation of the kidneys. But so do a great many drugs that in therapeutic doses are perfectly harmless. We at least, do not advise the use of quinin for malaria in *toxic* doses.

Dr. Hare has collected from medical literature some twelve cases in which quinin seems to have acted as a kidney irritant. Most of them present at the same time other genito-urinary symptoms, showing that there was some intercurrent source of irritation or that the patients had probably an idosyncrasy for the drug. He surely would not wish us because of these few cases to modify our ideas as to the administration of quinin in malaria. Many cases of skin irritation from quinin might be collected, yet surely no one would argue therefrom that quinin is irritant to the skin in every case and must be administered always with special reference to that fact.

For idiosyncrasy no rules can be laid down and in our presentation of a short article on quinin we did not think it necessary to refer to it at all, leaving something to the good sense of our readers.

After this discussion of Dr. Hare's authorities, since he lays no claim in his article to any clinical experience in the matter that would make his personal opinion of value, we may be permitted to reiterate our former opinion as to quinin in malaria. In cases in which there are convincing symptoms of active malaria the practitioner will err (if it is an error) with the the world's best authorities on malaria in giving quinin freely even though hematuria, hemoglobinuria, or albuminuria be present.

SCIENTIFIC AND EDUCATIONAL REFORMS.

MEDICAL NOTES OF THE JOINT MEETING OF THE AMERICAN PHYSIOLOGICAL SOCIETY AND THE AMERICAN PSYCHOLOGICAL ASSOCIATION, HELD AT COLUMBIA UNIVERSITY, NEW YORK, DECEMBER 29, 1898.

(Continued from page 56.)

PROFESSOR F. S. LEE read a paper on the nature of muscle-fatigue, in which he said that so far it has been the custom to deduce our knowledge of muscle-fatigue entirely from the frog's muscle. By a comparison between the fatigue-curves of the muscles of the frog, the turtle, and the cat he showed that there are special features of the problem for each kind of muscle, so that the general principles as now taught in physiology will require modification.

Fatigue seems to be induced in the muscle by

the presence of potassium lactate produced during muscular metabolism. When this substance is brought artificially in contact with the excised muscle fatigue rapidly develops, as shown by the curves of contraction obtained after electric stimulation. The same effects are not produced by bathing the muscle during its time of activity with sodium lactate or kreatin, though these substances have been claimed to act also as fatigue-producers. Muscle-fatigue would seem to be due, as far as our present knowledge goes, to the presence of potassium lactate, though perhaps other substances as yet unknown are associated in the effect. Fatigue differs from exhaustion, inasmuch as the elimination of the toxic products restores the muscle to its normal condition, while in exhaustion muscle-elements have been consumed and must be supplied again by the slow processes of vital elaboration of nutritional material.

The biologic significance of fatigue then would seem to be that it is a protective process, guarding the muscle against exhaustion by paralyzing function before overexertion can use up too much of its store of energy. The same biologic significance and protective property would seem to attach to brain fatigue, which prevents the much more serious condition of brain exhaustion. No changes can be demonstrated in nerve-cells after fatigue, while after exhaustion Hodge found vacuolation and lessened staining power, especially of the nuclei, so that the need of this protective influence of fatigue can be readily recognized.

G. C. HUBER read a paper on observations on the innervation of the intracranial vessels, in which he presented an extremely interesting and important fact. Some years ago Professor Obersteiner of Vienna published some observations showing that certain nerves had end-plates in the walls of intracranial blood-vessels; not much work has been done on the subject since. Huber has been able to demonstrate a set of medullated and non-medullated nerve-fibers, these last in plexuses, that accompany the blood-vessels. The medullated seem to end in the adventitia and to be sensory nerves, that is, nerves carrying impulses from periphery to center of the nervous system. The non-medullated are distributed to all the intracranial blood-vessels in perivascular plexuses as in other parts of the body. Serial sections show that they terminate in the unstriped muscular wall of the blood-vessels. It seems clear, then, that the same factors that influence, and the methods of action that hold for, vasomotor nerves all over the rest of the body, may be considered to apply to the intracranial tissues also.

PROFESSOR G. T. W. PATRICK of Chicago read a paper on the confusion of tastes and odors. He has had the opportunity, a rather rare one, of making detailed observations in a case of complete anemia, and has availed himself of it to demonstrate the fact that the two senses, taste and smell, overlap each other in function much more than is thought, and that contrary to the general impression, taste seems to count for but little in many things usually thought pertaining to it alone.

This patient, a woman of good intelligence, has been completely anemic from birth, being unable to recognize any of the nine classes of odors under which odorous substances have been grouped. Substances such as ammonia, chloroform, ether, and pyridin she was able to recognize, but this was evidently due to touch rather than smell, so much of these volatile substances coming in contact with the mucous membrane of the nose as to excite sensations in the tactile nerve-endings there.

Substances in common use in the household, though his patient was an experienced housekeeper, she utterly failed to recognize when blindfolded. Milk was usually mistaken for water, barley water, broth, etc. None of the ordinary meat-broths were recognized, and not even identified as broths, unless there was salt in them. Quinin, though the patient had such an aversion for the drug that she refused to allow her medical attendant to prescribe it for her under any circumstances, was pronounced by her, with eyes bandaged, to be pulverized coffee. Shortly before she had mistaken an ordinary decoction of coffee for a solution of quinin. Tea and coffee were utterly indistinguishable to her, though she was a great lover of coffee, and, of course, thought herself a great connoisseur.

Professor Patrick, after making these observations on the pathological subject, tried a series of comparative experiments on her and two perfectly normal, intelligent women. Even with good smelling powers they failed to recognize milk, failed to distinguish meat-broths, mistook one meat for another, veal and pork for turkey and chicken, and the like, when blindfolded. If they held their noses, tea and coffee became not only indistinguishable, but unrecognizable, and were merely said to be bitter. Out of twenty such trials with coffee, only once was it recognized.

Professor Patrick suggests that a great economy in household expenses may be accomplished by merely blindfolding the family before sitting down to table. If the influence of smell is removed by some contrivance at the same time, most of the savory dishes and drinks now so popular may be replaced by the simplest, cheapest materials.

PROFESSOR C. F. HODGE (with H. H. Goddard) read a paper on possible ameboid movements of dendritic processes of cortical nerve-cells. Dr. Hodge has never been very much taken by the theory that would explain certain phenomena of psychology—sleep, hysteria, consciousness, etc.—by movements of the neurons and the making and breaking of connections between them because of contractions or extensions of their processes. It has seemed to him a little like tearing up railroads and tearing down telegraph lines every night in order to shut off communication for the resting hours.

He has attempted to put a question to Nature in the matter, and has gotten an answer. This he presents for what it may be worth, and makes no exaggerated claims as to the scientific value of the answer, though he considers it an encouragement to further serious work along this line. He took two young puppies and killed one of them early in the morning after it had had a good night's sleep; the other he kept awake all day, which makes a

puppy very sleepy and tired by nightfall; he then killed this second one. Preparations of the cortices show in the case of the puppy kept awake all day a certain varicose condition of the dendritic processes of the cortical cells which is not to be found in the preparation from the untired dog. These varicosities may help to explain the cessation of neuronic contact which finally takes place in fatigue when sleep supervenes, according to the theory that attributes contractile properties to the neurons.

At the joint meeting of the Scientific Affiliated Societies the address of welcome was delivered by President Low of Columbia University, who, besides extending a cordial greeting to the assembled scientists, reminded them of how much had been done for education by such meetings and by the coordination of the different departments of education in a large university like Columbia.

Education is taking a more practical form in all departments, and for this modern science and scientific methods are mainly responsible. The meeting of a great body of scientific men is especially welcome to a great university. Those outside of educational circles thoroughly appreciate the practical tendencies in modern education and give them their meed of recognition. An anecdote might illustrate: Two young women were talking of a young man the other day, when one said, "Isn't he brilliant and learned?" The other said, "Well, he explained to me all about all the varieties of mistletoe the other day and the various plants upon which they are parasitic, but when he passed under it he did not seem to recognize it." There is a knowledge that is merely dry and unimproving, but its day is gone by.

Then followed the discussion upon advances in methods of teaching the various sciences. PROFESSOR CONKLIN of the University of Pennsylvania said that the teaching of zoology as at present organized presupposes laboratory work and demonstrations. The merely didactic lecture is practically a thing of the past. The new light that is guiding modern scientific teaching is the intimate union of research and teaching. The value of teaching in science is directly proportioned to its contact with the living sources of scientific advance. The teacher of science, to be successful, must himself be a contributor to knowledge. A new scientific fact discovered in a laboratory is the best possible stimulus to the work of all connected with the laboratory. It used to be questioned whether original research should ever be undertaken in laboratories meant for the training of undergraduates. This is no longer the case, and during the last few years not a few of some of the notable contributions to our scientific knowledge have come from undergraduate laboratories. The laboratory at Wood's Holl has given an excellent practical example of the value of this method. Other schools will advance in just the degree to which they imitate, as far as possible in their curricula, the Wood's-Holl methods.

PROFESSOR HUNTINGTON of Columbia University discussed advances in the teaching of anatomy. The most important feature of advance is the place deservedly given to comparative anatomy. This leads to the cultivation of the true scientific spirit in anatomical work. Time was when the quantity of facts, not the quality of the facts, given the anatomical student seemed to be the ideal of the teacher. This is getting to be so no longer. The museum of anatomy is no more a mere idle collection of curios, a storehouse for anomalies and monstrosities; it has become a library where the student may go for the illustration of the important parts of anatomy. Object-teaching has replaced theory. Demonstrations are given to small numbers of students, so that personal attention is given to each man. The lecture still has a place, but it is a limited one, a preparation of the student's mind for future demonstrations, not as used to be thought, a pouring-in of ready-made information in unlimited quantity. On the other hand, the danger is avoided of thinking that the study of models can replace the explanations so necessary for the proper understanding of the subject, so that the student may not justly say, "I asked for bread, you gave me a model."

PROFESSOR W. T. PORTER of Harvard University spoke of advances in the teaching of physiology. Professor Porter insisted on the thought so well expressed by President Eliot of Harvard that we must train for power, not for information. With the rapid advance in modern physiology and the immense amount of material it is necessary to absorb, in order to have a practical working knowledge of it, our only hope is to train in scientific methods. Certain subjects in physiology should be coordinated with related practical subjects. Laryngology and ophthalmology would especially benefit by this coordination, and would themselves react beneficially upon physiology. This would lead to putting certain parts of physiology later in the course than now, but that is a change not at all undesirable, and the correlation with practical medicine thus gained will be invaluable in the interest it will arouse in physiology.

The force now making for reform is irresistible. It is nothing less than that the mass of knowledge in every department of medicine is growing so huge as to overwhelm both professor and student. The only refuge lies in a more thorough mastery of the scientific method. The medical student must acquire power rather than information. Only thus will he be able to hold a steady course through the baffling winds and cross-currents of a veritable sea of knowledge.

PROFESSOR GAFONG of Smith College spoke on advance in methods of teaching botany. The day of published laboratory guides is going by. The personal influence of men is replacing the influence exercised over the student by methods, and the teacher is becoming the director of interested investigating students.

Death of an Entire Family from Pneumonia.—The following would seem a further demonstration of the infectious nature of pneumonia. Dr. H. Y. Magnum of Metropolis, Ill., died on December 26, 1898, from this disease; twenty-four hours later his only daughter died; three days after, his wife died; the following week his only son died, and information was received on the 10th inst. that the grandmother, the only remaining member of the family, had died—all from pneumonia.

CORRESPONDENCE.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

CELEBRATION OF THE FIFTIETH ANNIVERSARY OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY—DISCREDITABLE PROFESSIONAL ADVERTISING—NEW LABORATORY BUILDING FOR THE UNIVERSITY OF PENNSYLVANIA—BENEFITS OF MINOR PELVIC OPERATIONS—SOME UNUSUAL FEATURES OF MEASLES—THE PHILADELPHIA MEDICAL CLUB — MEDICO-CHIRURGICAL ALUMNI ASSOCIATION — HOSPITAL GIFTS — PERSONAL NOTES — OBITUARY — HEALTH STATISTICS.

PHILADELPHIA, January 16, 1899.

THE Philadelphia County Medical Society began its semicentennial celebration on Saturday evening, January 14th, when Dr. J. Chalmers Da Costa delivered an address. He spoke of the existing conditions in each country and in every phase of life and after a review of the political and scientific status abroad, dwelt upon this country as it was in 1849, the year in which the Society's first meeting was held. Philadelphia, her lawyers, merchants, and physicians, her customs and her achievements of that time, were carefully gone over, and a short description of the personalities of the great medical men of that day was given. A contrast was drawn between the politicians of that day and this, and he stated that the Senate was not then a club of millionaires but a body of law-givers—not law-sellers. A careful review was given of the history of the Society and the good it has accomplished, and of a fight against the political appointment of an irregular physician to have charge of the Philadelphia Hospital. He made a plea for the appointment of a scientific man as coroner who should be authorized to make use of such material as he becomes possessed of and favored, also, the use of our municipal hospitals for clinical instruction. Of the original founders of the Society but one remains, Dr. Alfred Stillé, and Dr. Da Costa paid tribute to his part in founding the Society, and closed his address by recounting the advances in medicine made and those to be made in the future.

On Sunday evening the Reverend Dr. Kerr Boyce Tupper delivered a lecture on the "Ideal Physician" at the First Baptist Church.

Many of the profession in this city received a card a few weeks ago announcing that Dr. ———, Specialist in Female Diseases, could be consulted at such and such a time. The sequel was to be found in a daily newspaper advertisement which contained the man's name who "cured female irregularities." Last week a throat specialist sent cards to many physicians, together with reprints of various articles written by the advertiser, who is a reputable physician. Perhaps the comparison is hardly flattering but this practice of advertising favors quackery and is certainly anything but elevating.

New Laboratory Building for the University of Pennsylvania.

The accompanying illustration shows the proposed new physiologic, pharmacologic, and pathologic laboratory to be erected by the University of Pennsylvania for the use of its Medical Department. The main part of the laboratory building is 192 feet in length, and there are wings running back at each end 128 feet. Large student-laboratories are placed in the wings, while the front of the main building is divided into a number of special research-rooms, offices, and work-rooms of various sorts. On each floor to the rear of the center of the main building there is a special demonstration and lecture-room arranged in the form of an amphitheater. The animal house is a special building two stories high situated at the open side of the hollow square formed by the main buildings and the two wings. The cost of the building and equipment will be in the neigborhood of $300,000, and it is urgently hoped that a large part of this fund will be secured by contributions from the alumni.

At the County Medical Society on Wednesday evening, January 11th, Dr. George E. Shoemaker read a paper on "Some Cases Showing the Benefits of Minor Pelvic Operations," called for, he said, because of the tendency to overlook these minor, lesser procedures. The recorded cases were those in which the cervix was repaired, fissures cured, scar tissue removed, etc., and while it happened that the majority entailed two or three minor operations, some were questionably classed as minor.

In the discussion which followed Dr. Norris said he advocated better diagnostic power on the part of the general practitioner, which would cause him to send, properly, many patients to the specialist and criticised the gynecologic teaching which the student receives to-day, believing that it tends to make him a dabbler and as an instance stated that many men would hesitate to do a plastic gynecologic operation who think nothing of curetting a uterus, yet the latter is, in his opinion, the more difficult of the two, if it be properly done. Dr. Massey objected to Dr. Norris' statement that all women who complain of backache, pain, etc., should be sent to a specialist and believes in more house or office treatment by the general physician and in fewer patients being sent to the gynecologist.

Dr. James H. McKee read a report on "Some Unusual Features of Measles," one feature being the conveyance, beyond any question, of the disease by a third person, who not only had changed her clothing but had also taken a walk in the fresh air before going to the reported case. Another feature occurred in the case of a boy who had recurring attacks of what was apparently true appendicitis—attacks which were so diagnosed by three physicians in consultation. Dr. J. Madison Taylor suggested that this latter condition might have been due to peritoneal eruptions which were first described by an Italian surgeon in 1896. Dr. McKee pointed out the clear symptoms of appendicitis and did not think Dr. Taylor's suggestion was possible in the case under discussion. Dr. Massey called attention to a case of anterior poliomyelitis following measles and Dr. Taylor to the not infrequent occurrence of this affection as a sequel.

The annual business meeting of the Medical Club of Philadelphia, was held Thursday evening, January 12th, at the Bellevue Hotel. James M. Anders was elected president, Charles Burr, 1st vice-president; George E. De Schweinitz, 2d vice-president; Guy Hinsdale, secretary; John Lock, treasurer (re-elected). Wilmer Krusen, H. Augustus Wilson, G. G. Davis and Ernest La Place were elected as additional members of the executive committee. After the election supper was served during which Dr. Burr paid tribute to the memory of the late Dr. Pepper and other speeches were made by Drs. Anders, Hare, Minnick, and Lemuel J. Deal.

The annual election of the Alumni Association of the Medico-Chirurgical College was held on Saturday, resulting as follows: President, Henry Fisher; secretary, George W. Pfromm; treasurer, E. S. Gans. An executive committee was also elected which varies little from that of last year.

Having learned that the Chester Hospital had an indebtedness of $4500, Samuel A. Crozer sent his cheque for that amount to the treasurer last week. St. Timothy's Hospital at Roxborough was also the recipient of a gift last week of $5000 for a free bed, from Miss Jennie Schofield and Mrs. John Dearnley in memory of their father, Uriah Schofield.

Major D. C. Payton, who has had charge on behalf of the Government of the hospital care of soldiers in Pennsylvania, has been offered a professorship in the Medico-Chirurgical College, the Chair to bear the title of Military and Naval Surgery. Dr. F. S. Bowman has been appointed Out-Door Physician of the Second Ward by the Board of Charities and Correction.

At the eighth annual meeting of the West Branch Medical Association, held at Williamsport, January 10th, Philadelphia was represented by Drs. W. M. L. Coplin, S. MacCuen Smith, and Ernest LaPlace. E. O. Kane, was elected president; J. W. Albright, vice-president; J. M. Corson, secretary, and G. F. Bell, treasurer. Arthur E. Bate, a graduate of Jefferson Medical College, died last week aged forty-six years. William S. Frick, a graduate of the same college, died on Saturday last, aged seventy-two.

The total number of deaths occurring in Philadelphia for the week ending January 14th, as reported at the Health Office, was 642, of which number 185 occurred in children under five years of age. The total number of new cases of contagious diseases was 342, reported as follows: Diphtheria, 69 cases, with 25 deaths; scarlet fever, 36 cases, with 5 deaths; typhoid fever, 237 cases, with 22 deaths.

OUR LONDON LETTER.

[From Our Special Correspondent.]

THE BRITISH ASSOCIATION FOR THE PREVENTION OF CONSUMPTION—ANOTHER DOCTOR BLACKMAILED—THE VACCINIA GERM—THE SENTENCE IMPOSED UPON THE BROTHERS CHIMES, OF BLACKMAIL FAME.

LONDON, January 10, 1899.

THE event of the week has been the great private meeting of the British Association for the Prevention of Consumption, at Marlborough House. I say "private meeting," for although its purpose was publicity and nothing medical has more strikingly attracted the attention of the lay public in many months, yet Marlborough House is the London residence of the Prince of Wales and the Society met there by invitation as his guests. His Royal Highness presided in person and the general eye having been thus skilfully riveted upon the proceedings, Sir William Broadbent made an admirably clear and pointed speech explanatory of the aims and hopes of the Association, if only it could enlist the "man in the street" and his family in their crusade. And in this they really seem to have succeeded this time. It was evidently news of a surprising order to the British public that consumption is a curable disease, and the newspapers have taken it up like a pack in full cry. That astute and energetic organizer, Mr. Malcolm Morris, deserves much credit for the skill with which he and his colleagues suc-

ceeded in securing such a strong cast, an excellent stage, and an admirable time for the presentation of the first public scene of their sanitary drama. Such stars as Lord Salisbury, Lord Rosebery and Mr. Balfour were not only present but did their "turn," and the hit of the meeting was made by the Prince of Wales himself, who in his closing speech announced that Her Majesty herself was already a pioneer in the movement, as she had some months ago ordered the slaughtering of thirty head of valuable Jersey cattle at the Home Farm, Windsor, because they reacted to tuberculin. This certainly was a very progressive thing in an old lady of nearly eighty, and English at that, but it borders upon the ridiculous for all the daily papers to piously refer to it as "Her Majesty's sacrifice for science!". Did they expect Her Serenity to go on drinking tuberculous milk, or to sell the diseased cattle for beef?

Anyhow the meeting scored a great success. One sanatorium where wage-earners and clerks can be treated at nominal rates is announced already and more will soon follow, and what is even better the dear people seem to have got a clear idea that consumption is contagious and a notion to guard against its spread.

These be troublous times for doctors of various sorts. First, for the abortionists, who deserve it, but since that time the fancy for suing seems to have spread. Nearly a dozen of our much harried brethren have been before the courts during the past few weeks. Two cases are of some interest, one on account of its rarity, the other as a specially contagious form of a very common annoyance. The latter was the case of a Dr. Wallace, who was arrested upon the old familar blackmail charge of seducing a patient and then producing an abortion to cover the crime. Absolutely the only "evidence" presented at the trial was that the plaintiff had gone to the doctor's office a number of times to be treated for a uterine displacement, with the ultimate result that after a sitting at which the sound was introduced into the cervix, an abortion at about the third month occurred. The patient was sure that the doctor must have "drugged" her or that she had fainted away, but could not tell upon what visit this had occurred, or recall any of the circumstances attending it. Furthermore, her mother testified that Dr. Wallace having been called in haste to the house, found that an abortion had occurred, and had exclaimed, "And I'm afraid it was my fault," which the old harpy neatly and artistically ornamented with the trifling addition, "I could not resist the temptation!" And upon this trashy excuse for a case the doctor was publicly accused of a revolting betrayal of confidence, arrested and held for some time while the sapient Dogberry, before whom he was brought was deliberating how he should be admitted to bail, all because he was a doctor and as such at the mercy of any female shark who chose to consult him professionally. Fortunately, the case was tried before a strong and competent judge who promptly dismissed it at the close of the plaintiff's evidence as, if it had gone before a jury, there's no telling what the result might have been.

The other case was, to say the least, unusual. A physician was ordered by the coroner to make a post-mortem examination of the body of a child which had died rather suddenly. He did so, and testified at the inquest that the child died of congestion of the brain, whereupon the coroner, Mr. Braxton Hicks (he who took Sir James Crichton-Browne so severely to task for revealing the advantages of ptomain and toxins as poisons to the criminal public) produced two other doctors who at his request had made a second post-mortem. They testified that death had been due to pneumonia, and that the skull had not been opened by the previous examiner. Then Mr. Hicks, who considered that the majesty of the British Constitution had been insulted in the person of one of its principal pillars, himself, promptly committed the first doctor on a charge of perjury. But the unfeeling judge before whom the charge was tried promptly dismissed it, apparently upon the curious and rather inadequate ground that it was simply a case of the famous "doctors disagree," but really as a rebuke to the officiousness of the coroner in setting traps for witnesses. He reduced the magnificent Mr. Hicks to a state of speechless fury by remarking that the proceedings of his coroner's court reminded him more of a performance upon the comic operatic stage than of a real court of law.

The death of Professor Kautback, the well-known pathologist of Cambridge, is widely regretted. He was still a comparatively young man, having held his professorship barely a year and a brilliant future seemed to lie before him.

The newspapers are full of the reported discovery of the vaccinia germ by Mr. Stanley Kent of St. Thomas' Hospital, and several enterprising reporters have interviewed the discoverer and made lovely hash of his scientific descriptions of the process. The episode has of course roused the ire of the "antis" who cannot bear to see any aspect of the vaccination infamy attracting the interest of the public away from themselves and their brass band, and they are rushing into print with letters triumphantly pointing out how abominable a thing glycerin-lymph *must* be when even the conscienceless and ruthless doctors are seeking a substitute for it!

Christmas week was most appropriately signalized medically by the magnificent donation of $1,250,000 by Lord Iveagh to the Jenner Institute of Preventive Medicine. The bulk of this sum is to be devoted to the equipping of laboratories and furnishing of grants for research in bacteriology and other biologic sciences auxiliary to medicine. Fellowships both resident and traveling will also be established.

The late meeting of the Pathological Society was chiefly taken up with the presentation of some new methods of blood-staining by Mr. Pakes illustrated by a large number of specimen-slides and also slides showing the hematozoon of black-water fever of which so much has been heard of late. This Messrs. Pakes and Cross regard as an aberrant form of malaria and pointed out that the absence of the parasite from the peripheral blood by no means disproves its presence in the central organs of the body. This was confirmed in the discussion by two members who had had experience in the tropics and who pointed out that in the so-called cerebral form of malaria, no or-

ganisms might be discovered in the surface-blood, and yet after death the capillaries of the brain he found packed with them. Some of these cases in fact were so intensely cerebral in character that it was difficult to distinguish them from apoplexy. The same condition of affairs would be also found in "intestinal" malaria which presents almost the exact symptoms of cholera.

The sentence of twelve years "hard" upon two of the Chimes brothers of "Lady Montrose Female Tablets" fame and seven years upon the other, is regarded as not a whit too severe. But no one has ventured to suggest that the women who "bit" are to be even blamed in any way for their share in the intended abortions.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

VALUE OF PRESSURE IN A SURGICAL DRESSING—SEPARATION OF THE LOWER EPIPHYSIS OF THE FEMUR, NEW TREATMENT—SYPHILIS FROM DRIED VIRUS—PANCREATIC CALCULI—PANCREATITIS SET UP BY THE COLON BACILLUS—DOUBLE VAGINA AND SEPTATE UTERUS—EFFECTS OF FREQUENT AND INFREQUENT FEEDINGS.

AT the Medical Society, November 28th, GOULD opened a discussion on the value of pressure in the treatment of wounds. The importance of securing asepsis has directed the attention of surgeons away from other points in the treatment of wounds, and a routine is apt to be thoughtlessly followed. The maintenance of one position for days, for instance, is not at all according to the wont of Nature. He also held that pressure is largely ineffectual for the purposes for which it is employed, that it is sometimes mischievous, and that it can be well and safely dispensed with. Pressure is usually employed to secure apposition of the edges of the wound, to prevent oozing, to lessen serous exudation, to prevent bagging of fluid, to retain muscular contraction, or to prevent the yielding of cicatrices. But for some time past he had abandoned the use of pressure for these purposes and the wounds had healed better and the comfort of the patients had been promoted. For pressure is not always harmless, and without due care may cause sloughing where there is a large flap, as after removal of the mamma. He had also been struck with its inutility in certain cases, as when the edges united but fluid collected beneath the flap. Pressure did not prevent its reaccumulation, but the insertion of a drainage-tube removed the difficulty at once. Pressure need not be resorted to even after such operations as excision of the mamma. Again after laparotomy for removal of large ovarian cysts or for hysterectomy a simple collodion dressing over the wound is better than the mountains of cotton wool and firm bandage which are still largely used. What surgeons have been in the habit of attributing to their therapeutical measures has been the result of Nature's kindly offices.

DORAN said that five years ago he left off strapping the abdominal wall and simply applied a many-tailed bandage. Later he had used scarcely any pressure, but recently he had returned to its use, as it seemed to him that firm pressure favors the expulsion of flatus, encourages the intestinal movements, and hinders the formation of adhesions. The bandage should compress the abdomen as high as the epigastrium or the gas is likely to be imprisoned in the transverse colon.

SHEILD said that while he agreed with much that the reader of the paper had said he still thought that pressure is desirable after certain operations, such as removal of the mamma, and inguinal colotomy—in the latter instance to prevent extrusion of the viscera should there be severe vomiting. He had seen amputation wounds heal without any dressing, and had been struck with the ease with which the process was accomplished.

BEALE admitted the evil effects of pressure in certain circumstances, notably after excision of joints, in which the healing is distinctly interfered with by the pressure.

At the session of December 12th PITTS read an account of two cases in which he had ligated the iliac arteries. In the former of these he ligated the internal iliac for a pulsating tumor of the buttock, either an aneurism or a sarcoma. The affection proved to be the latter and the patient died from extension of the trouble about a year after operation. In the second case the common iliac artery was ligated on account of repeated hemorrhage from a sinus which had existed a long time, and which was of rather doubtful tubercular origin. The operation was the means of healing the sinus. In both of these patients the incision was made in the median line, the intestines were held up out of the way, and the posterior peritoneum was divided. The common iliac was followed downward until its division was found.

At the Clinical Society, December 9th, the discussion turned on the possibility of syphilis being contracted from dried virus. WILLIAMS presented a report of a case in which a primary lesion formed on the tongue of the owner of a set of bagpipes. The pipes had been loaned to a syphilitic subject and then put away for two months, after which they were played on by the owner, and three weeks later the sore on the tongue appeared. Other more-direct sources of contagion were carefully eliminated.

LUCAS said that there is no more improbability in the preservation of activity of dried syphilitic virus than of dried vaccine virus upon an old ivory-point.

GOULD read a paper on a case of pancreatic calculi, one of which obstructed the bile-duct. The patient was a man, aged forty-six years, who, after a six-months' illness, marked by jaundice and umbilical pain, submitted himself to an operation. The liver was greatly enlarged and the gall-bladder distended. An incision was made over the latter and eight ounces of fluid aspirated. Several calculi were found in the duct of Wirsung and were removed by cutting down upon them. The jaundice and pain were not relieved and three weeks later the abdomen was again opened and a large calculus in the head of the pancreas so situated as to obstruct the flow of bile into the duodenum was removed. The jaundice was relieved but the patient died twelve days later. Small abscesses behind the gall-bladder and behind the ascending colon were found at autopsy.

KELLOCK mentioned a similar case, marked by jaundice

and great pain. After a rigor the patient became less jaundiced and a small calculus was found in the stools. The patient gradually sank from exhaustion. There was another calculus the size of a cherry-pit in a dilated portion of the duct in the head of the pancreas.

FRIPP and BRYANT related the facts in a case of acute hemorrhagic pancreatitis. A man, aged forty-two years, was seized with sudden abdominal pain and two days later was in profound collapse. The abdomen was opened but no obstruction was found. Two days later the patient died. The autopsy showed extensive fat necrosis in the omentum, in the fat around the pancreas, and in the subperitoneal fat, both parietal and visceral. The pancreas itself was twice its normal size and was purplish in color. There were numerous hemorrhages in the fat around it. Sections of the pancreas showed rod-shaped bacilli in the blood throughout the organ but none in the ducts. Cultures grew into colonies of pure coli bacilli. It appeared to be a primary acute interstitial inflammation associated with the presence of the colon bacillus and marked by extensive hemorrhage and by secondary necrosis and inflammation of the parenchyma in the immediate vicinity of areas of fat necrosis. The distribution of the bacilli suggested the blood-vessels as the probable channel of infection.

At the Liverpool Medical Institution, December 8th, LARKIN showed a specimen of double vagina and septate uterus obtained from a woman, aged forty-five years, who died from sarcoma of the lumbar spine. She had had three natural labors and in none of them was the abnormality apparently detected. It did not cause her inconvenience in any way. The vaginal septum was thick and fleshy and the two vaginæ were of equal size. There was an os uteri on each side. The uterus was not bicornate but was divided by a thick septum.

At the Bradford Medico-Chirurgical Society, Novemvember 15th, RABAGLIATI read a paper on some effects of frequent and infrequent feeding. He believed that with few exceptions the cause of all the illnesses he had seen for thirty years was too frequent and too abundant feeding. He thought that Ranke's estimate of the food required by an adult per day was sufficiently large, *viz.*, 100 grams of proteids, 100 grams of fats, and 250 grams of carbohydrates, in all about 1 pound avoirdupois of mixed food. He said that three pounds of food a day frequently produces starvation due to over-repletion. He quoted a case of chronic vomiting in a man, aged forty-seven years, who suffered from chronic gastritis, who had been treated by all kinds of gastric tonics and sedatives and by gastric lavage without benefit. He suggested a long fast to the patient. The patient's temperature under the tongue was 96° F. and at the commencement of the fast his weight was 130½ pounds. During the first week the patient took only water, about a pint a day. During the eighth and ninth days he had, besides water, the whey from a pint of milk, the curds being separated by means of rennet. After the ninth day he had a daily allowance of whey from two pints of milk, no restriction being put on him as to water, which he took either hot or cold as he fancied. He never vomited or felt as if he would vomit after beginning treatment on September 1st till the fast ended on October 6th, neither has he vomited since. At the end of the fast his pulse was 65, soft, steady, and regular, and his temperature 98.4° F. He was up and about the whole time, helping his wife with light domestic duties. His weight at the end of the fast was 117¼ pounds; the loss of weight therefore was 13¼ pounds, or an average of 6 ounces daily during the fast. Since the fast he had been eating ordinary food twice daily, taking a total weight of from 12 to 16 ounces each day.

SELECTED ARTICLE.

LEPROSY IN THE HAWAIIAN ISLANDS.[1]

BY D. A. CARMICHAEL, M.D.,
UNITED STATES MARINE HOSPITAL SERVICE.

Origin.—A number of statements are made relative to the introduction of leprosy into the Sandwich or Hawaiian Islands. Some contend that the disease was brought by the natives themselves, who are an offshoot of the great Polynesian race, the Mahori branch, that inhabit the islands that lie to the south and west. It has existed for ages in the islands of Malaysia and in Java and other islands of the great archipelago. Mr. R. W. Meyer, for many years agent of the Hawaiian Board of Health at the leper settlement on Molokai, in his report for 1886, states that he arrived at the islands in 1850, that in 1857 he first heard of the appearance of leprosy among the natives, and that in 1859 or 1860 he saw the first case of leprosy in a young native who died from it in less than three years. The young man's mother took care of him, and, probably in 1868, she showed signs of leprosy, and died a leper at the settlement. The Chinese generally get the credit for its introduction, although this is denied by many observers, and it is a singular fact that few Chinese on these islands have the disease in comparison with the large number of cases which have occurred among the native Hawaiians.

Leper Settlement on Molokai.—In September, 1864, the spit of land on the northern or windward side of the island of Molokai was chosen as a suitable site for the establishment of a settlement for the segregation of lepers. The site is probably one of the most suitable and isolated that could have been chosen for such a purpose. It is surrounded on the north, east, and west by the sea, and the base or southern side is placed beneath a steep pali or precipice, from 1800 to 2000 feet high, which discourages communication with the rest of the island. The first settlement was at Kalawao on the eastern side of the spit of land. It lies in close to the mountains at the rear and is much exposed to the northeast trade winds. Kalaupapa, the more recent and larger settlement, is situated on the plain to the westward, is further removed from the steep cliffs, and is somewhat protected from northwest winds by the crater of Kahukoo. One and three-quarter miles seaward of Kalaupapa is the small village of Ilioki, and midway between Kalaupapa and Ka-

[1]Abstract from the Public Health Reports to the Supervising Surgeon-General, United States Marine Hospital Service, December 30, 1898.

lawao and close in to the base of the mountain is the village of Makanaupapa, both included in the leper settlement. Water is supplied from the Waikolu Valley and piped from thence to the settlements. Storage reservoirs are placed at different points as a reserve in case of accident to the main supply.

The lepers are supplied with a liberal ration by the Government, which for one week comprises the following: Beef, 7 pounds; salmon, 5 pounds; fresh fish, 7 pounds; pai-ai, 1 bundle, 21 pounds net (a native food prepared from the root of the colocasia esculenta, often written "poi"); rice, 9 pounds, with 1 pound of sugar; bread, 8½ pounds, with 1 pound of sugar; flour 12 pounds, with 1 pound of sugar. Children born at the settlement, of leprous parents, receive one-half of the above ration. Monthly rations are also issued of soap, salt, matches, and kerosene oil. Each leper, outside the homes, receives a clothes ration order of the value of $5 every six months, on the 1st of January and July in each year. Many of the lepers have friends outside who supply them with clothes and money. The cost of the settlement to the Government is about $67,000 per year, and the amount expended for segregation and transportation of lepers and maintenance of the receiving station at Kalihi amounts to about $16,640 per annum.

The following table showing the number of lepers at the settlement on Molokai, mortality, and the number on the books at the end of each ten years from 1864, and estimated from the report of the Board of Health for the period ended December 31, 1897, is given below:

Year.	Admissions.	Deaths.	Discharged or unaccounted for.	Number on the books Dec. 31.
1864	141	26	10	105
1874	91	161	8	671
1884	108	168	8	717
1894	128	155	3	1124
1897	124	139	.....	1100

Spread of the Disease.—From 1849 to 1865 no measures were adopted by the Hawaiian authorities for the suppression of leprosy. The intimate living habits of the natives, using the same sleeping mats, clothing, pipes, eating from the same dishes, bad hygienic surroundings, and, above all, a tolerance of the leper—that is, he was treated as a member of the family and never as an outcast—are given as some of the causes aiding in its spread.

In 1852–53 an epidemic of smallpox invaded the Hawaiian Islands and more than 5000 died. Vaccination of the people resorted to during and subsequent to this epidemic is said to have aided in the dissemination of leprosy. The vaccinations, according to competent observers, were made from arm to arm, with humanized virus, and frequently the pulverized scab selected without much care. The vaccinations were done by planters, missionaries, and the natives, owing to the limited number of physicians available. The general opinion among leprologists is that vaccination had little to do with the spread of leprosy; that the disease was not common in those years, and that there was no marked increase in the number of cases, within the usual period of incubation, subsequent to the epidemic of smallpox.

During the residence of Dr. E. Arning here as a specialist to investigate leprosy for the Hawaiian Government an interesting experiment bearing on this subject was performed by him. In 1885 he vaccinated a number of lepers. The vaccination took in 3 cases, 1 tubercular and 2 anesthetic. Both the lymph and crust of the tubercular case contained the bacillus of leprosy, but he could not detect it in the anesthetic cases. Nonhumanized virus has been used in the islands since 1888 and precludes the possibility of transmitting leprosy by vaccination.

Dr. Arning also performed his now celebrated experiment bearing on the direct inoculation of leprosy. By consent of the Government and a condemned criminal named Kenan, whose sentence was commuted to imprisonment for life, Dr. Arning, on September 30, 1884, excised a leprous tubercle from the arm of a pronounced eper and transplanted it to the exterior surface of the left forearm of Kenan. He was confined and kept under daily observation for the four weeks following, and after that once a week for several months, a microscopic examination of the inoculation spot being made each time. After this he was examined regularly once or twice a month. The microscope revealed the presence of the bacillus lepræ in large numbers until the middle of March, 1885. They then diminished in numbers but were present in the scab fourteen months after inoculation. At this time there was nothing in his appearance indicative of leprosy. Pains in the elbow and wrist of the inoculated arm, which existed in 1885, four or five months after inoculation, soon disappeared. There was no marked change in the condition of Kenan until March, 1887 (two and a half years after inoculation). Dr. Brodie, the prison physician, then noticed changes in the right ear and coppery looking spots on the right cheek. In December, 1887, he was examined by Dr. Arthur Morritz and his description given as follows: "General health good; no pain; slight unhealthy wound on palmar aspect of left index-finger is the only abrasion of the skin. Covering the chest, arms, abdomen, and especially the back, is a copper-colored eruption raised above the surrounding skin and giving to the touch a distinct feeling of thickening. The size of the spots vary from a 10-cent piece to half a dollar, and present shapes round, oval, and serpiginous. The backs of the legs and thighs are affected, and on the front of the knees and thighs are serpiginous patches and small plaques. The right cheek, forehead, and right ear are infiltrated with leprous deposit. Eyebrows show no sign of diminution. The ulnar and popliteal nerves are thickened. Kenan was afterward removed to Molokai and died there. This experiment of Dr. Arning was widely accepted as proof of the inoculability of leprosy, but Mr. R. W. Meyer, for many years superintendent of the settlement of Molokai, states there were lepers in Kenan's family. His mother-in-law, Pulu, died of leprosy in July, 1891, and Kenan's own son, Josepha, was at the leper settlement long before Kenan

himself became a leper, and died there in December, 1893. Kenan's nephew, David, a son of Kenan's sister, also died of leprosy at the settlement in July, 1890."

Other Modes of Communication.—Kissing, nose-rubbing, cohabitation, reception of the secretions from lepers on abrasions of the surface of the skin or by inhalation, deglutition, or transmission by insects. In many of the tubercular cases and some of the anesthetic variety, the lips, cheeks, tongue, arches of the palate and nose are the seat of numerous leprous ulcers, and it is claimed that they also exist in the intestines. The bacilli are readily given off from these ulcers, and it is said can be communicated when a suitable soil is presented, such as abrasions of the skin and mucous membrane, catarrhal conditions, etc.

The natives eat poi, or pai-ai, from the same dish with the fingers, and a leper in the circle with digital leprous ulcers might convey it to the others. The opinion prevails in Hawaii that the disease is not communicated by cohabitation with lepers, but leprologists admit that in the early stages of the disease, when it is not well defined on the surface of the body, leprous patches may be present on the genitals and given an abrasion or suitable soil it is reasonable to infer that transmission in this manner is not impossible.

It is suspected that certain insects play a part in the transmission of leprosy, the common house fly, mosquito, and bedbug being the principal carriers of the infection. The house fly is now prominent as a disseminator of typhoid fever and septic affections, and it is not difficult to imagine that an active part can be taken by this insect in the spread of leprosy, particularly where they can pass from open leprous ulcers to other individuals who may present a suitable soil for the reception of the bacillus. I am not aware that any bacteriological investigations have been made in this matter relative to the house fly. The mosquito is also considered as the disseminator of certain diseases, and some light has been thrown on the influence it may have on the transmission of leprosy by Dr. L. F. Alvarez, the leprologist of the Hawaiian Government. He allowed mosquitoes to alight on the open sores of lepers, and when they had feasted themselves they were captured, killed, and stained preparations made from their crushed bodies contained leprous bacilli in large numbers. Mosquitoes are present in the Hawaiian Islands throughout the entire year. Until the life history of the bacillus lepræ is worked out and isolated cultures obtained, the powers of resistance of the organism to external agencies will remain unknown, but it is believed to be very resistant, and it may exist in a spore condition in the soil, on clothing or other fomites and on the surface of various articles.

Immunity.—All persons are not susceptible to leprosy, and most of the white race seem to have a certain immunity, and if the disease can be conveyed by cohabitation the white sailor seems secure. Many women have lived in intimate relation with leprous husbands and husbands with leprous wives, and failed to contract the disease. A number of the kokuas or helpers on Molokai have lived among and associated with lepers for years and escaped. Bearing on this question, Dr. A. Morritz says: "The washwoman for the hospital at Kalawao has washed the soiled clothes of lepers, the worst cases, for seventeen years, she had lepers living in her house, and her two husbands were lepers for years before they died, and yet in spite of all this contact this woman is hale, hearty, and plump, and as fine a specimen of womanhood as any in the island."

Heredity.—At one time much importance was attached to the theory of heredity in this place but in the light of the present day it is considered an exploded theory. A person has only to visit the Kapiolani Home at Kalihi and see the healthy female children born in the settlement of leprous parents (one or both lepers), and ranging in age from three to twenty years, to be convinced that there is little in the theory of heredity. In contrast with this and an additional argument in favor of contagion is the fact that if these children, born of leprous parents, and without a blemish, be left with their parents and associate with lepers they contract the disease.

Medical Treatment.—The Hawaiian Government with a liberality which is deserving of high praise, has made every effort to employ different measures vaunted as cures for leprosy. Their own physicians have tried many remedies, and in 1883 Dr. Edward Arning of Switzerland was induced to come to Hawaii and serve the Government as a specialist to investigate the subject of leprosy. He accomplished much in the line of investigation, but little relative to curative treatment. He resigned in 1889, and was succeeded in the same year by Dr. A. Lutz of San Paulo, Brazil, a pupil of Dr. Unna of Hamburg.

Under the influence of good food, improved hygienic surroundings, and treatment of a tonic nature the disease improves and sometimes is arrested, in a manner similar to cases of tuberculosis, but the tendency to relapse is great and the cases of aborted leprosy are not numerous. Among the medicinal remedies most valued here are sodium salicylate, salol, creosote, gurgun and chalamoogra oils, pyrogallic acid, crysarobin, ichthyol, lysol, and mercurials in cases associated with syphilis. Dr. Alvarez has tried a bouillon prepared from a culture of the bacillus prodigiosus used as an injection once daily, beginning with 12 c.c. and increasing gradually until 80 c. c. were used. This was tried on 12 leper boys brought from the settlement at Molokai, and the experiments extended over a period of three months. At the end of the period the boys were examined by the medical board and two of them declared free from leprosy and returned to their homes. Another showed marked improvement, but the condition of the others was not changed. He also tried thymus and thyroid-gland extract and dry powder. The result was negative in the case of thymus, but from the thyroid gland were satisfactory. He has also tried the serum of Dr. Carrasquilla of Bogota, Columbia. Temporary improvement in all and marked benefit in one case resulted, which continued for six weeks, "the tubercles which had covered his face, ears, and chest had, with very few exceptions, disappeared entirely." Baths of various kinds, including the Goto system have also been tried. They are all beneficial, but not curative.

Precautions Necessary to Prevent the Introduction of Leprosy into the United States from the Hawaiian Islands.—The period of incubation in leprosy is so long and variable, from three to seven or ten years, its detection in the early stages so difficult, and the fact that leprous patches may first appear on the unexposed parts of the body, such as the upper parts of the arms, chest, back, and nates, and that leprous ulcers may be present in the upper part of the nasal passages, makes its detection by ordinary quarantine methods uncertain. In pronounced cases detection is easy, but these rarely emigrate and the greatest difficulty would be met with in the slight cases occurring in the white or mixed races. The native Hawaiian rarely emigrates, and those who leave their homes generally go as sailors, although I have been informed that there is a small colony of Hawaiians in Salt Lake, Utah. It is possible for persons with leprosy undeveloped, and for the slighter cases, to pass from one country to another without detection, and the fact of its presence in various parts of the United States is evidence that quarantine restrictions do not exclude it. Few medical men are familiar with the appearance of leprosy in its early stages, and cases are often diagnosed as other skin diseases, and the fact that skin diseases, such as psoriasis, various forms of tarina, chloasma, scabies, erythema, etc., are often associated with leprosy, makes its detection still more difficult.

Restrictive measures should be adopted to control the departure of all emigrants from endemic foci of leprosy at the point of departure, and these should consist of a careful inquiry into the family and sanitary history of each emigrant, a rigid physical examination and disinfection of his effects. Similar procedures at the port of arrival should be adopted and a record of the destination of the emigrant preserved. Adoption of the above-named measures would restrict the importation of the disease so far as it is possible to do so, but such proceedings could be still further aided by the Government of the United States assuming control of measures for the suppression of leprosy in the possessions recently acquired by annexation and by conquest, *viz.*, the Hawaiian and Philippine Islands and the island of Cuba, in all of which leprosy exists to a greater or less extent.

REVIEWS.

A CLINICAL MANUAL OF MENTAL DISEASES. By A. CAMPBELL CLARK, M.D., F.F.P.S.G. New York: William Wood & Company, 1898.

THE very numerous text-books on insanity from American, English, and German sources which have appeared within the past five years were apparently considered by the publishers of this manual as insufficient for the needs of the profession, or as scientifically inadequate to reveal to medical men the status of psychiatrical science. When a publishing firm undertakes the issuance of a scientific work it should do so with some show of reason. That this book demonstrates such a reasonable motive may be doubted, for it is scientifically inadequate in all the departments of psychiatrical science. If any department of psychiatry is well exploited, it is the clinical, and of clinical pictures of the various forms of mental disease we have in literature not only more than enough, but all, without exception, the equal, if not the superior, to those of this manual. The work is primitive and of little scientific value.

THERAPEUTIC HINTS.

For Rhinopharyngitis in Young Children.—A simple procedure for local treatment is recommended by GASTON, *viz.*, the introduction into the nostrils, three or four times a day, of a cotton tampon rolled to a point, covered with borated vaselin, with or without the addition of an astringent, such as the following:

℞	Antipyrini	gr. viii–xvi
	Acidi borici	gr. vi
	Vaselini	ʒ v.

M. Ft. ungt. Sig. External use.

If the child greatly objects to the tampons, one or two drops of the following mixture should be instilled into each nostril night and morning:

℞	Menthol	gr. viii
	Ol. amygdalæ dulcis . . .	ʒ i.

M. Sig. External use.

If direct treatment of the pharynx seems indicated, it may be swabbed with iodin in glycerin, equal parts, or with the following mixture:

℞	Iodi	gr. vi
	Potassii iodi	gr. xxx
	Ol. menth. pip.	gtt. iv
	Glycerini	ʒ v.

M. Sig. External use.

For Pruritus of the Vulva, in pregnancy, ichthyol, in the form of ointment (fifteen per cent.) or watery solution (ten per cent.) has been found to effect a cure after all other means of treatment, such as antiseptic douches, lotions, and ointments have been tried without success.—*Doizy.*

An Agreeable Antiseptic Dentrifrice.—

℞	Salol	gr. xlv
	Ol. anisi } aa	*m.* viii
	Ol. geranii }	
	Ol. menthæ pip.	*m.* xv
	Spiritus	℥ v.

M. Sig. Dentifrice.—*Noguć.*

Administration of Opium to Children.—The wine of opium is mentioned by NOGUÉ as a suitable preparation in the following doses:

Up to 6 months	½ drop
From 6 months to 1 year . .	1 drop
From 1 year to 2 years . .	2 drops.

Increase one drop per year of age. These doses may be repeated half-hourly when indicated.

Wine of opium may also be given in an enema, 2 or 3 ounces of a suitable vehicle being employed, in doses as follows:

From 1 to 2 years . .	1 to 3 drops
" 3 to 5 " . .	5 to 10 "
" 5 to 10 " . .	10 to 30 "

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ORIGINAL ARTICLES.

THE DIAGNOSIS AND SURGICAL TREATMENT OF RENAL CALCULUS.*

BY NATHAN JACOBSON, M.D.,
OF SYRACUSE, N.Y.:
PROFESSOR OF CLINICAL SURGERY IN SYRACUSE UNIVERSITY; SURGEON TO ST. JOSEPH'S HOSPITAL.

IN considering renal calculus from a surgical standpoint there are several questions to be answered: First, are we, in a given case, positively dealing with stone in the kidney? Second, when does its presence demand surgical intervention? Third, what operative procedure does the case require; and finally, what are the results of the surgical treatment of renal calculus?

The more we familiarize ourselves with the manifestations of renal stone, the more evident it becomes that the classic symptoms set down in the books are not always present. In one instance stone may be present for a long time without awakening symptoms, in another they may be most distressing. This variation depends upon the location and character of the calculus. Lodged at the base of the pyramids, or in the recesses of the calices, there may be no manifestations whatsoever. Lying free in the pelvis of the kidney, acting like a ball-valve and occasionally producing obstruction, there may be at an early period both hemorrhage and colic. Not until, by its presence, the stone has produced a certain degree of irritation in the kidney can marked signs of disturbance be expected to occur. The history of most of the cases coming to the surgeon's notice indicates that the trouble has existed many years. Of ten patients presenting themselves for operation at the clinic at Heidelberg,[1] five had had trouble since earliest childhood, covering a period of from seventeen to thirty-nine years, and in only a single instance had it been of as brief duration as two years.

Assuming that we have to deal with stone, we are at once reminded of the fact that as constitutional conditions are responsible for the calcareous formation, both kidneys are apt to be simultaneously involved. In other cases, renal colic may appear in one kidney much earlier than in the other. With such a history, were complete anuria to occur, experience has taught that the kidney last presenting evidences of trouble is probably responsible for the suppression. Some writers question the possibility of the inhibition of renal function in one kidney as the result of the presence of stone in the other. There is no doubt whatsoever that such a condition of things does occur. For example, in a case published by Israel,[2] in which complete anuria had existed for four days, overcoming the obstruction in the left kidney permitted free discharge of urine from both. That this in reality took place was evident by comparison of the urine accumulating in the bladder with that flowing out of the wound in the kidney. The latter contained a larger percentage of coloring matter, more albumin, and had a much higher specific gravity than that discharged from the bladder. At the same time it is of interest to note that many times obstruction in one kidney awakens manifestations which make evident the presence of stone in the other. To illustrate this, I may recall a case reported by Mr. Herbert W. Page.[3] The man had both vesical and renal calculi so it became necessary in turn to remove the stone from the bladder, to enter his left kidney, and later on to open the right one. The three operations were performed at intervals of about one month.

Attention should be called to the fact that during the period in which the calculus is hollowing out for itself a nest in the kidney a degree of pyelitis is aroused, apparent in the presence of pus in acid urine, but when the nesting process has been completed and the calculus has found a comfortable resting place, the pus disappears and the patient enjoys so great a degree of comfort that he thinks himself cured. This process may cover a period of years. On the other hand, in an individual not possessing the necessary resistance, or when a tubercular condition may have developed renal abscess, suppurative destruction of the kidney may advance and extending through the very substance of the organ may produce abscess in the perinephric structures.

Because of the wide anastomosis of the renal nerves, pain is one of the most uncertain manifestations attending this condition. Dr. Dickinson[4] tells of a young woman who died at St. George's Hospital. Both kidneys were occupied by large, rough stones. The bladder and urethra were perfectly normal, yet her distress was almost entirely vesical. No less eminent a surgeon than Dr. J. William White of Philadelphia reports a case[5] in which he and the

* Read before the Onondaga County Medical Society.

learned editor of the *American Journal of the Medical Sciences* had undertaken an operation for the relief of what both of them had diagnosticated as appendicitis, but finding the appendix perfectly normal, sought further for the cause of trouble and found a stone in the ureter. The history of this case was that of severe pain in the lower portion of the abdomen and groin of the right side; the thigh was flexed; the patient had vomited on the evening of the attack and continued to do so for the two succeeding days. On the second day there was distention of the abdomen and constipation; in the evening the patient had a chill with considerable increase in the abdominal distention. Severe cutting pain in the right side of the abdomen followed an enema. There was fever throughout, and during the chill it reached 104.2° F. Decided fulness could be made out well down in the right side of the abdomen. W. F. Brook reports a case[6] in which the most acute pain was at the McBurney point. I had occasion recently to know of a man who, after intense right-sided abdominal pain, the diagnosis being appendicitis, discharged a renal calculus.

In the article referred to, by Dr. White, a list of the conditions appears which strikingly simulate renal stone, one of them, a case of spinal caries[7] in which there was unilateral rigidity, testicular pain, intermission of symptoms, increased frequency of urination, nausea during the attacks, and oxaluria with local pain and tenderness. Erichson,[8] as well as W. H. A. Jacobson,[9] and others, have had similar cases. Subphrenic abscess, due to appendicular disease, has been mistaken for perinephric abscess. One such case I have seen. Duodenal ulcer and intestinal irritation have provoked symptoms similar to those of renal calculus. Malignant tumors of the cecum have been mistaken for diseases of the kidney, and Morris reports a suppurating condition secondary to malignant disease of the sigmoid flexure as having been mistaken for renal abscess. Hemorrhage from the kidney not the site of stone can in consequence of the obstruction due to the presence of clot awaken symptoms strongly suggestive of renal stone. Grosglik[10] published recently an article in which eighteen reports of cases of hemorrhage from presumably healthy kidneys were gathered from medical and surgical literature, some subjected and others not to operative procedure; in all, with two possible exceptions, no organic disease could be found to account for the presence of symptoms similar to those of renal calculus. Some of these were subjects of hemophilia. Locomotor ataxia[11] and "hepatic neuralgia,"[12] have in turn been mistaken for stone. Franks refers to a woman who had both ovaries removed. No relief from her trouble was experienced until a stone was extracted from her kidney.[13] Ransohoff[14] collected forty-four recorded cases in which operations for stone in the kidney had been performed and in none of which stone was found. Two of these subjects, dying later, upon post-mortem examination, nevertheless, showed the presence of stone in the kidney. The differential diagnosis between tuberculous and calcareous disease of the kidney, especially at an early stage, is not always easily made.

This brings us to the question of the recognition of stone after exposure of the organ. In many cases palpation of the exposed organ fails to reveal the presence of stone. Routine puncturing of the organ until finally every part of the kidney is believed to have been searched does not always discover the presence of stone even where at a later period it was shown to have existed. For this reason Weir,[15] in one of the series of papers covering his personal experience in renal surgery, recently published, as well as before the New York Surgical Society, stated that the method of detecting stone by puncture is most unsatisfactory. He regards as much more reliable an incision into the kidney and the examination of the organ with the finger or a sound. The ureter can at the same time be explored with a metallic probe. It should be eighteen or twenty inches in length as this canal stretches under pressure.[16] Mr. Morris calls attention to the fact that under the pressure of stone the kidney becomes hard and tough. An exposed kidney found to be exceptionally hard is always to be suspected of harboring a calculus.

In connection with this matter it might be stated that multiple stones are frequently encountered in the same kidney. It is necessary, therefore, after clearing out the pelvis in every instance, as Israel was the first to indicate, to recognize the necessity of searching the ureter to determine that its passage is free. It has occasionally been possible when stone has been found in this canal to force the calculus up into the kidney or down into the bladder by gentle kneading. The presence of multiple stones has in a few cases been recognized before operation by the bimanual manipulation of the kidney. A grating sound resulting from the friction of one stone upon another is produced. Singularly enough, however, Stimson reported to the New York Surgical Society in November, 1897, that he obtained in a given case distinct crepitus; the kidney, however, when opened presented but a single stone.

Parenthetically it might be observed that the most common form of renal calculus is the uric-acid stone, the next in frequency, the oxalate of lime. The

latter is particularly the one which is apt to occur singly; the other forms are much more certain to be multiple. The stone which appears in infancy is usually made up of urate of ammonium. Mr. Thomas Taylor, who made the analyses of the calculi of the Hunterian Museum, proposes to call stone with this nucleus the infantile calculus, and those with uric acid the calculus of young adult life. The oxalate-of-lime stone, he says, is encountered usually after the fortieth year.

The difficulty in positively determining the presence of stone in the exposed kidney has led Fenwick [17] to resort to the use of the Röntgen-ray for examination and discovery of the same. The difference of the transmissibility of light, however, of the different calculi make it of doubtful utility. The oxalate-of-lime calculus is the only one which gives a good shadow. Both the uric acid and the phosphatic stones are too readily penetrated by light waves. Other disadvantages of this method of examination are clearly stated by the investigator. The examination of the unexposed kidney through the loin has not been as yet at all satisfactory.

Discussing still further the indications for operation it may be stated that absolute dependence cannot be placed upon examination of the urine. The presence of pus, blood, and a marked excess of urine salts in an acid urine, together with a clinical history of lumbar pain, attacks of colic, radiating down the course of the ureter, associated with temporary suppression of urine strongly indicate the existence of stone in the kidney, but it is too well known that even extensive disease in the organ can occur without positive urinary evidence to make one depend too much upon urinanalysis in calculus disease. For example Weir [15] removed a stone an inch by three-fourths of an inch in diameter, weighing 112 grains, and with it forty smaller ones from a patient who for ten years had had right-sided renal colic with the frequent passage of gravel. For two years he had almost constant lumbar pain, yet the urine showed nothing characteristic of stone, and in fact contained no pus.

I trust that it will not be inferred from what I have here stated as to the difficulty of making a correct diagnosis in many cases that surgical operation for renal stone is not justified. On the contrary, the surgical treatment of no organ has been more satisfactory than that of the kidney. I desire to indicate simply the need of a searching diagnosis.

Not so many years ago, in fact within the recollection of most of my hearers, the kidney was looked upon as one of the organs which the surgeon had no right to select for attack. After careful experimentation upon the lower animals, Simon of Heidelberg, in 1870, first attempted the removal of the kidney from a human subject. It was ten years later that Czerny undertook the same operation for the relief of stone in the kidney. In the same year, 1880, Mr. Henry Morris was the first to invade the kidney for the removal of stone, and at the same time to preserve the integrity of the organ. The operation of nephrolithotomy as introduced by him at that time is altogether a justifiable surgical procedure. As he well points out,[4] a marked distinction should be made between nephrolithotomy and nephrotomy. Nephrotomy simply implies the incision into the suppurating sac built up of the remnant of a kidney and differs decidedly from the procedure he suggested for the removal of stone while the kidney is still in a condition of possible preservation. The indications for the latter, to borrow his words are: "The operation should unhesitatingly be done in all cases in which symptoms of renal calculus continues uninfluenced by medicinal treatment, and are sufficiently severe to interfere materially with the comfort and usefulness of the patient's life. If for several months a person has been subject to more or less constant pain in one loin and along the ureter, and perhaps also in the testicles of the same side, if there have been recurring attacks of renal colic, and especially if with these symptoms there has been occasional hematuria, or the urine has been constantly charged with a little pus or albumin, we have the conditions not only justifying but demanding an operation."[16] Few, perhaps, would go so far as does White [5] in saying that the operation is indicated as soon as renal calculus is diagnosed.

Certain it is that by the lumbar incision the kidney is very easily reached. Its exposure is but the work of a few minutes. With careful preparation there ought to be no danger of suppuration nor subsequent septic disturbance. A variety of incisions have been suggested in the loin. I prefer the incision which extends obliquely downward, perhaps four inches in length, from the twelfth rib toward the crest of the ilium. By means of a pillow, or better still, Edebohl's air-bag placed against the abdomen, with the patient in a semiprone position, the kidney can be readily forced into the loin and made accessible. Except when it is necessary to remove large tumors, the opening of the peritoneum is not required. The fatty investment of the organ is speedily reached and the kidney exposed. The further steps in the operation will depend upon what is discovered. If the stone is not superficially located, it will be necessary to incise the entire organ and enter the pelvis. The stone can best be enucleated with the finger or removed with bullet-forceps or scoop, or if branched, broken up and re-

moved in segments. If unnecessary to invade the pelvis this should not be done, as an opening into this space certainly increases the danger of permanent urinary fistula. The introduction of the finger controls renal hemorrhage to a certain extent. If there is no suppuration, and the surgeon has been fortunate enough to remove the stones and leave a clean surface, the kidney can be sutured, and primary union expected,[18] but if the calculus disease has been sufficiently severe or long continued to provoke suppuration, it is evident that repair by first intention cannot be anticipated.

It becomes a very serious question as to where the line justifying nephrotomy or demanding nephrectomy is to be drawn. Recently a number of the German clinicians have published their experiences in renal surgery, and it is but fair to conclude that when there is extensive destruction of the kidney the removal of the entire organ has yielded better results than simple incision. Herczel, publishing the statistics of the Heidelberg clinic in 1890, was able to report twenty-nine cases of nephrolithotomy in which 26 of the patients were definitely cured, and in which there were, therefore, but 3 deaths. In the same article he quotes Brodeur, who reports 23 lumbar nephrolithotomies with but a single death, and the same writer referring to the suppurating cases, quotes 13 lumbar nephrotomies in which 7 patients died, and 3 by the abdominal route, all terminating fatally. On the other hand, where for the same condition of widespread suppuration and destruction of the kidney, the organ was removed by the lumbar route in 34 cases 19 patients were cured, while of 10 removed by the abdominal route 5 were cured. Apparently, then, for this condition a slightly better result has followed the removal of the organ than its mere incision, depending upon Nature to cast off the débris.

And yet great dangers may be encountered in the attempted removal of the kidney closely adherent to the surrounding structures. It is impossible to determine how far reaching these adhesions may be. In a number of cases the vena cava has been torn open or cut into by the bite of the forceps which embraced the pedicle of the kidney. Such a laceration occurred in a case of Weir's.[18] He recognized its nature promptly and brought the large vein up into the wound. It was put upon the stretch and compressed and the laceration closed by a running suture. His patient recovered without the formation of a thrombus or venous obstruction. He, however, was more fortunate than some other operators have been. Fatal results attended the same complication at the hands of Enderlin,[15] Thornton,[16] and Bräuninger.[19]

Hildebrand[20] reports an operation upon a large pyonephrotic tumor which filled the left half of the abdomen. The tumor was movable, not affected by breathing, its surface was smooth, and the wave of fluctuation extended from before backward to the lumbar region. The urine contained a rich sediment of pus-corpuscles, cholesterin crystals, and a large percentage of albumin. This enormous renal sac contained half a pailful of purulent but not odorous fluid. Connected with it was an accessory cavity filled with stones. These were light, friable and phosphatic. The size and adhesions of the sac, the operator believed, would have rendered an attempt at its removal fatal, while its incision and fixation resulted in a very satisfactory recovery.

The danger of mercurial irrigation in these operations was well brought out by a case in the hands of Edmund Owen.[21] The mercurial poisoning was so profound as to almost cost the patient his life. Fortunately, however, he recovered. Gauze drainage is to be used when suppuration is feared, but it is to be lightly introduced, for packed into the wound it is said to have caused death at the hands of some operators by pressure upon the nerves of the mesocolon and against the parietal peritoneum, by producing intestinal paralysis.

Briefly summarizing, then, the surgical aspect of renal calculus, it can be said that with the diagnosis positively established, with the futility of medical treatment conceded, invasion of the kidney is not only justified but demanded. The earlier this fact can be recognized the better the result. If nephrolithotomy can be performed before the kidney has undergone marked destructive change, not only can a useful organ still be preserved, but the fatality attending such operation is ordinarily not more than ten per cent. On the other hand, with marked enlargement of the kidney, because of the accumulation of water or pus in what has become a renal sac, with a fair amount of tissue still remaining which can perform its function normally, nephrotomy is to be performed. If there has been extensive destruction of the organ, or numerous calculi invade widely the kidney, and if the surgeon is assured of the presence and activity of its fellow, the better course, if the adhesions are not too great, is the removal of the organ. The mortality attending these latter procedures is enormously greater than that of nephrolithotomy, reaching in skilful hands as high a rate as fifty per cent. There can be no longer a question as to the safety and accessibility of the lumbar over the abdominal route.

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[18] Koenig, "Specielle Chirurgie," vol. 2.
[19] *Beitrage zur Klin. Chir.*, p. 486, 1897.
[20] *Deutsche Zeit. f. Chir.*, p. 90, 1895.
[21] *British Medical Journal*, November 24, 1888.

A LITTLE EPIDEMIC OF POLIOMYELITIS.

BY LEO NEWMARK, M.D.,
OF SAN FRANCISCO, CAL.

NOTHING affords more support to the theory of the extrinsic origin of an organic disease than an epidemic of it. Charcot[1] was expatiating once on the hereditary antecedents in cases of acute anterior poliomyelitis, with the purpose of showing its membership in the "grande famille neuropathologique," when Cordier's account of an epidemic of this disease made him pause. He was unwilling, however, to infer the infectious nature of the malady without some reserve, saying that "this very curious history of a little epidemic of infantile paralysis constituted an episode absolutely isolated." Since then other epidemics of greater and less range have been reported, and I desire to add in the following an account of a group of four cases, for which the appellation "epidemic" may seem rather grandiloquent, but which may, perhaps, serve in some measure for the elucidation of the etiology as well as a larger number of cases. The village in which three of these cases occurred, and near which the remaining one was observed, is stated to have only forty-nine inhabitants, so that four represents a not inconsiderable proportion of the population. This place is Le Grand, situated in the San Joaquin Valley, in Merced County, California.

CASE I.—June 2, 1898, in the morning, Irving J., a boy aged eight and one-half years, complained of backache and had fever. He continued to walk about, but refused food. At 2 P.M. his temperature was 102.5° F. On the following day he was unable to walk.

CASE II.—On June 6th, Louis J., a brother of the preceding, aged ten years, complained about noon of an ache in the knees. At night his temperature was 102.5° F. He was able to walk as late as 10 P.M. The following morning he could not move his lower extremities at all, and handling of them caused pain. There was retention of urine and great prostration until about the eighth day of his illness.

There is one other child in this family, a boy older than either of the patients, who is a deaf mute, and at the time of his brothers' illness he was in an asylum for the deaf and dumb.

CASE III.—On the tenth of June, in the evening, a boy eight years of age, the son of a physician who attended the J. children, a constant playmate of the latter, was seized with pain in the back, headache, and fever. The temperature ranged from 101° to 104.5° F. for two days and nights, and then gradually fell to normal. There was frequent desire to urinate. Pain and stiffness in the elbows, wrists, and shoulders were complained of. On the second day partial paralysis was observed in the left arm and leg. Power was completely regained over the leg, but the arm has remained affected.

Drs. McMaster and Robertson of Le Grand, to whom I am indebted for the foregoing histories, also kindly furnish me with the notes of:

CASE IV.—On a farm, three miles distant from Le Grand, a robust lad, fourteen years of age, having become suddenly ill with fever, headache, and nausea on the 2d of August, was paralyzed almost completely, without anesthesia, in the lower extremities; on the morning of the 4th was partially paralyzed in the left arm, and troubled with difficulty in urinating on the 5th, and the muscles of respiration becoming involved, he expired on the 8th. Irving and Louis J. were brought to San Francisco, and I saw them on the 25th of last July. This was the only opportunity I had of examining them. Irving J. was able to walk briskly, but with a swaying gait. When he walked there was overextension of the knees, and the left foot was moved in a flapping manner. He could not rise from the recumbent position without considerable effort, and, in order to regain the erect position when rising from a sitting posture on the floor, he pushed the trunk up by resting his hand on the thigh. The region between the lowest rib on the right side and the crest of the ilium exhibited marked wasting. Extension of the knees was slightly enfeebled, as was also flexion of the left one, nor were extension and flexion of the left ankle and abduction of the left thigh executed with normal force. The knee-jerks were about normal. Distinct failure to respond to the faradic current was noted only in the left tibialis anticus among the muscles of the lower limbs.

This lad stutters considerably. His brother, Louis, presented an almost complete flaccid paraplegia. He could not extend the big toe of the right foot, but he could extend the others, and was able to flex them all; on the left side only very feeble flexion of the toes was possible. While he was capable of some flexion and extension of the right ankle, in the other these movements were lost. The other movements remaining in the lower

[1] *Leçons du Mardi*, p. 146, 1888–1889.

extremities were very slight flexion of the knees, a little extension of the right hip, a fair degree of outward, and much less inward, rotation of the right thigh. The knee-jerks were absent.

In the right leg faradic contractibility was preserved in the peronei, in the extensors of the toes and in the posterior tibial group; it was absent in the tibialis anticus. No response was elicited in any muscle on the left side below the knee, nor in either extensor quadriceps.

Neither of the boys exhibited anesthesia. Despite the incompleteness of the examination, owing to lack of opportunity, the diagnosis of acute anterior poliomyelitis in these cases is, I think, warranted by the facts communicated.

I have not seen the third patient at all, but Dr. Philip King Brown of San Francisco saw him at Le Grand and observed paralysis and atrophy of the intrinsic muscles of the left hand and of the deltoid.

The fourth, fatal, case seems to have been one of acute ascending paralysis, undoubtedly due to a myelitic process.

Inquiries addressed to a majority of the physicians practising in Merced and two adjoining counties, concerning the recent occurrence of acute organic disorders of the nervous system elicited no information tending to prove a wide dissemination of these diseases at the time of the appearance of the cases at Le Grand. One other case of poliomyelitis was reported as having occurred at the end of May in a boy of ten years who dwelt in the same county, but at a considerable distance from the little epidemic. It may be worth mentioning, however, that in the beginning of last March at Los Baños, a village of 450 inhabitants, situated in Merced County, but quite remote from Le Grande, six persons were seized with cerebrospinal meningitis.

Great influence has been attributed to heredity in the etiology of acute anterior poliomyelitis by some writers—by a majority of them according to Marie[1]; and the multiple occurrence of the disease in a family was thought corroborative of such a view. In the little series described in the foregoing not only were two brothers affected with the disease, but the stuttering of one of them and the deaf-mutism of a third brother may be considered as evincing their hereditary neurotic taint. The extension of the affection, however, to their playmate, who is in no way related to them, proves that in household epidemics of this malady it is propinquity in regard to locality and not to blood-relationship that determines the spread of the disease among near kin.

In its usual mode of onset acute anterior poliomyelitis bears the impress of an infectious origin. The recognition of its seasonal relations has served to confirm the view of such an origin. The occurrence of epidemics has rendered its causation by infection indubitable, notwithstanding our present ignorance of the real *materia peccans*.

The following is a brief summary of epidemics of which I have been able to find records: Colmer[1] relates that while on a visit to the parish of West Feliciana, La., in the fall of 1841, he saw a child about a year old which had been seized with hemiplegia, and he adds that he was informed on good authority that eight or ten other cases of hemiplegia or paraplegia had occurred during the preceding three or four months within a radius of a few miles. Bergenholtz (mentioned by Marie) observed thirteen cases at Umea in 1881. Cordier[2] reported thirteen cases of poliomyelitis which occurred during the months of June and July, 1885, among a population of 1500. Nothing similar had been known there in previous years.

Oxholm and others, according to Leegard,[3] saw nine cases between the end of July and the beginning of September, 1886, at Mandal in Norway. Leegard himself knew of several instances of two persons in the same household being attacked in quick succession. Medin[4] witnessed an epidemic of 43 cases in Stockholm in 1887, and another of 21 cases in 1895. From 1888 to 1894 there had been 29 sporadic cases. Both epidemics occurred in the late summer and early autumn.

The most extensive epidemic on record is that which occurred in Vermont, and lasted from late in June, 1894, into the fall of that year, culminating in August.[5] The scene of this epidemic was an area of 15 miles in length and 12 in breadth, with Rutland as a center. Caverly noted 132 cases which, he estimates, represented at least ninety per cent. of the whole number. In four families there was more than one case. Horses, dogs, and fowls were also affected. Altmann[6] reported fourteen cases of acute paralysis in children (nearly all of them, it seems, poliomyelitis, one hemiplegia) which occurred in the district of Port Lincoln, South Australia, during the months of March and April, 1895. The last case before the series was an isolated one in 1887, and no cases had occurred since. The proportion of the cases to the population amounted to 1 in 108. In two instances two members of the same family were attacked in rapid succession.

[1] "Maladies de la Moelle," p. 446. See also Féré, "La Famille Néuropathique." Second edition, p. 90, 1898.

[1] *Amer. Jour. of the Med. Sciences*, p. 248, January, 1843.
[2] *Lyon Médical*, 1888.
[3] *Neurolog. Centralblatt*, p. 766, 1890.
[4] Abstract in *Neurolog. Centralblatt*, 1896, p. 1119, of an article in *Nord. Med. Arkiv.*, 1896.
[5] Macphail, MEDICAL NEWS, December 8, 1894; and Caverly, *Jour. of the Amer. Med. Association*, xxvi, p. 1.
[6] Extract from the *Australasian Med. Gazette* for April, 1897, in the *Lancet*, July 3, 1897.

Buccelli's account of an epidemic[1] relates to seventeen children, all of whom dwelt in the same purlieu of Genoa. Of these twelve had atrophic spinal paralysis, and five spastic cerebral paralysis; all of them were taken ill between the last days of May and the middle of September, 1895. Buccelli refers to a little epidemic observed by André at Toulouse, in which a relation between the cerebral and the spinal form of children's paralysis was also evinced, and to other Italian epidemics besides that of Genoa; thus, one at Montespertoli was reported by Pieraccini, another by Cervesato at Padua, where twenty-six cases developed within five months, and Luciani stated that at Areuzano in June, 1883, there had been five cases within barely twenty days, after which, although the disease was common in his district, no accumulation of cases occurred within a short time until 1895, when three persons were successively affected at intervals of twenty days.

Finally, an instance of an epidemic limited to one household has been reported by Pasteur:[2] Seven children became ill in rapid succession within the space of three weeks with moderate fever and severe headache; within seven days of the onset one exhibited flaccid paralysis of the left arm, another cerebral spastic hemiplegia, and a third a spastic monoplegia, while two more escaped with tremors lasting a few days after the fever, and the remaining two had no nervous disturbance after the fever subsided.

The following facts may be gathered from the histories of these epidemics. The infection does not invariably produce a permanent or even a temporary paralysis. The brain (and the nerves) may be affected without implication of the cord, although less frequently than the cord, and those cases in which one child of a family suffered from a spinal and another from a cerebral lesion are not to be regarded, as has been done, as mere coincidences. A large majority of cases of acute poliomyelitis occur (in the Northern Hemisphere) between May and October, and the single epidemic reported from the Southern Hemisphere indicates a similar relation to season. Moreover, observing the dates of onset in 139 cases of acute poliomyelitis, and in 105 cases of acute "encephalitis" in children as registered on a chart by Buccelli, we see that the lines denoting increase and decrease of frequency of the two diseases are almost parallel, crossing each other only from March to April and in October. In the account of the Australian epidemic it is stated that the season was hot and dry; during the prevalence of the disease in Vermont the rain-fall was considerably below the average, and I may add that in California where there is practically no rain in summer, during the winter of 1888–1889 the rain-fall was disastrously scanty. But as the drought prevailed throughout the greater part of the State, and the epidemic was very limited in range, even if climatic conditions be credited with some influence, there must have been some additional factor which produced the disease within such narrow confines.

As to the guilty germ, for a germ may be justifiably assumed to be the immediate cause of the malady, there seems to have been no investigations yet beyond that of Schultze,[1] who found the diplococcus of Weichselbaum-Jaeger in the fluid obtained by lumbar puncture from a boy of five years with acute poliomyelitis. The malady sometimes follows in the wake of measles and other infectious diseases, as does also cerebral palsy in children, and future research will have to decide whether one and the same organism may produce the original disease and its sequel, or whether there there is a succession of different infections. Moritz Meyer[2] saw two brothers, adults, thus affected after measles, and Strümpell observed a boy who lived near a village in which three cases of poliomyelitis occurred in a single month, who was seized with encephalitis after measles.

[1] *Il Policlinico*, No. 12, 1897.
[2] *British Med. Journal*, April 3, 1897.

HYSTERECTOMY FOR PUERPERAL SEPSIS; WITH REPORT OF A CASE.[3]

By J. RIDDLE GOFFE, M.D.,
OF NEW YORK;
PROFESSOR OF GYNECOLOGY IN THE NEW YORK POLYCLINIC; VISITING GYNECOLOGIST TO THE CITY HOSPITAL.

SURGERY is rapidly settling many vexed and complicated questions. It has invaded the realm of its sister science Medicine and taken to itself for its particular treatment certain diseases which were formerly considered the exclusive property of medicine. In some of these incursions into the field of medicine, however, it has recognized its limitations and has hastened to restore to its original proprietorship the fruitless object of its ambition. Among these epilepsy may be mentioned as a striking example. There are still some questions, however, which belong to the field of exploration in which the proper place of surgery has not yet been defined. Prominent among these is the serious question of determining the proper place or even, if you will, the propriety of hysterectomy in cases of puerperal sepsis. In spite of all the advances which have been made in the

[1] *Münchener Med. Wochenschrift*, September 20, 1898. Abstract in *Phil. Med. Journal*, October 29, 1898.
[2] Leyden and Goldscheider, "Erkrankungen des Rückenmarks," chapter 17, 1897.
[3] Read at a stated meeting of the Northwestern Medical and Surgical Society of New York, November 16, 1898. For discussion, see page 126.

intimate knowledge of this disease, I know of no human affection in which the attending physician feels more helpless than in the presence of a well-developed case of puerperal septicemia; not because of the lack of things to do, but because of the fear of the utter futility of any and all measures. The uncertainty of the exact pathologic condition and consequently the very questionable prognosis, whatever form of treatment may be adopted, when in attendance upon an act which should be and normally is a physiologic process, are sufficient at times to paralyze the judgment of the wisest counselor. When to stay one's hand and when to adopt the most radical measures are questions so incapable of solution upon broad general principles that even at the present day each case must be judged almost exclusively upon its own individual signs and symptoms.

The history of every case subjected to a definite line of treatment adds its quota of facts to the sum total of observations upon which broad principles may be based and definite lines of treatment assigned to their proper sphere. It is, therefore, with the hope of adding the detailed account of my experience in one case to the solution of the subject of my paper, viz., "Hysterectomy in Cases of Puerperal Sepsis," that I ask your attention to the following history:

Mrs. Mary W., aged thirty-five years, an Englishwoman by birth, and a housewife by occupation, was admitted to my service at the Polyclinic Hospital February 28, 1898. She had been married eighteen years and had given birth to nine children. There had been no particular difficulty at any of her confinements until the last which had occurred five weeks before the date of entrance. She stated that her last confinement had been pronounced a difficult labor, the child having presented by the breech; that she had suffered from hemorrhage previous to the birth of the child which was stillborn, and had had more or less bloody discharge continuously since that time. This had occasionally been characterized by the presence of large black clots of blood. She had suffered from cramp-like pains in the lower part of the abdomen, and from severe rigors, sweats, and fever which began on the third day after delivery. She said that her treatment had consisted of poultices, vaginal douches, and morphin. My clinical assistant who sent her to me, said that he had been called to the case the day previous and had found the patient sitting in a rocking-chair complaining of headache and feeling sick. Her temperature was found to be 103½° F., pulse 120. After learning the history of the case and making a vaginal examination he diagnosed puerperal sepsis and sent her to the hospital. She was immediately treated to a brisk cathartic which reduced her temperature and improved her condition generally.

Upon examination March 2d, a foul-smelling discharge was seen to be escaping from the uterus. The abdomen was distended and painful to the touch. The patient had been sent to the hospital for the avowed purpose of being curetted only, and without any previous conversation as to any further operative procedure she was placed under an anesthetic. The cervix of the uterus was patulous, edematous, and boggy, the fundus as large as a pregnant uterus at three months, and firmly fixed in the pelvis by an inflammatory, boggy mass reaching off to the right iliac fossa. Her temperature at this time was 101.8° F., the pulse 100, and the respirations 20. Under the circumstances no radical operation was permissible. The uterus, however, was explored with a sharp curette, some small fragments of necrotic tissue removed, and the uterine cavity thoroughly douched with 1 to 3000 bichlorid-of-mercury solution and packed with iodoform gauze. A diagnosis of metritis with probable abscess in the right broad ligament was made and the patient put to bed to await recovery from the anesthetic that the situation might be explained to her. She readily consented to a radical procedure and on March 5th, under anesthesia, she was subjected to an abdominal hysterectomy. The uterus was in an anteverted position but had settled low in the pelvis and coils of intestine and parts of the omentum were adherent to its surface; projecting from the right horn was a large mass made up of adhesions of intestines and omentum, and when this had been removed there appeared an enlarged and diseased ovary and tube closely adherent and surrounded by lymph. Catgut ligatures were used to control the hemorrhage; the uterus and broad ligament of both sides were removed *en masse;* the pelvic cavity was flushed out with a gallon of salt solution poured in through the abdominal wound and allowed to escape *per vaginam.* The pelvis was then packed with gauze, the end protruding through the vulva, and the abdominal wound closed with through-and-through silver-wire sutures.

Upon examining the specimen it was found that the walls of the uterus were permeated with accumulations of pus varying in size from that of a pea to a large one near the fundus fully an inch in diameter. The ovary and tube of the right side contained pus amounting in all to two ounces; those of the left side were similarly involved though not to the same degree. The patient rallied from the operation and her temperature gradually fell from 102.2° to 100°F. Her general condition improved to the extent that she was able to take more nourishment, but her temperature fluctuated from 100 to 103° F., with a tendency however, gradually downward until the eighteenth day after the operation when it reached normal. Upon the day following this, the nineteenth, a slight chill occurred in the morning and her temperature rose to 105° F. It as rapidly dropped to the neighborhood of 100° on the following day and then for a week it fluctuated between 99.5° and 102°, when it suddenly jumped again to 104° and 104.2° F. Thereafter the excursions in temperature were sudden and extreme, going every day from 99.2 to 105° and even

106° F. up to April 10th, thirty-six days after the operation, when, in spite of the most careful nursing, nourishment, and stimulation, she gradually sank and died from exhaustion.

On the nineteenth day when the temperature first made its extreme rise, there were signs of lobular pneumonia in the lower lobe of the left lung posteriorly, which was considered septic in its nature. This gradually disappeared, however, and the patient gave no signs of localized disease in any part of her body.

In the face of such a history the question is constantly presenting itself: Was the fatal result due to the delay in the capital operation—in other words, might she have been saved by a more timely radical interference? and, on the other hand, what measures, if any, might have been applied to prevent the case reaching the condition where radical procedure was necessary?

This brings up the whole subject of the pathology and treatment of puerperal sepsis. Without going into the details of the subject, perhaps the principal features can be briefly presented in a few axiomatic statements. It seems now very generally accepted that the vagina and uterus in women are normally aseptic. Pathogenic germs do not exist normally in the vagina, as the acid secretion is an efficient germicide. It may be confidently affirmed, therefore, that as a rule puerperal sepsis is caused by the introduction into the genital tract of specific organisms, whose multiplication and absorption, together with the ptomains and leucomains produced by them in the blood of the patient, produce the symptom complex known as puerperal fever.

We recognize two forms of puerperal sepsis—*sapremia* and *septicemia*. The former is the result of the absorption of toxins or ptomains secreted by germs growing upon a putrefactive focus. These toxins are the product of the less virulent form of bacteria, the progress of the disease, however, being dependent more or less upon the resistance of the patient. In some, the bacteria of suppuration grow luxuriantly, and abscess formation and pyemia promptly follow. Septicemia, on the other hand, is produced by the more virulent species, namely, the streptococcus. This form of bacterium does not need a suppurating focus, but finds its habitat on any lesion in the continuity of the tissues, in which it multiplies and secretes its ptomains. The German pathologist Bumm has found that under favorable conditions an inflammatory exudate forms about the seat of invasion, and aided by the phagocytic action of the white corpuscles, prevents penetration of bacteria to adjacent tissues. The inflammatory changes are confined by this circumscribed wall, and the process is limited to the enclosed area. In more severe infection or with less resisting power of the tissues, the bacteria break down the protective zone, penetrate the deeper structures, and enter the lymphatics and veins, by which not only the toxins but the micro-organisms themselves are disseminated throughout the entire system.

It becomes necessary, therefore, to recognize early in the course of the disease the character of the invasion, for the treatment varies with it. If the infection is saprophytic, the conclusion is that there must be some retained placental or necrotic tissue which demands removal. These cases are characterized by a chill and sharp rise of temperature early in their history, and by an offensive lochial discharge. Such patients, therefore, should be promptly subjected to curettage, and a thorough application of an antiseptic douche. If, on the other hand, the infection is that of the pure streptococcus, the nature of the treatment must be such as to assist the resisting power of the uterus, and so reinforce the phagocytic fight which is being made against the invasion of the bacteria. If this can be effectually accomplished and the resisting zone of tissue maintained intact, the streptococci die and the disease is terminated. If, on the other hand, in a case of great severity in which the streptococci break down the resisting zone and gain entrance to the lymph and blood-currents, general infection occurs and the patient usually dies. Sustaining treatment, however, is indicated, and the prognosis depends upon the ability to maintain the vitality of the patient until the invasion shall have run its course. In pure streptococcic infection the curette has no place. It would simply break down the resisting zone and open the way for ready entrance of the bacteria, and in the more serious cases it cannot possibly do any good at the period of recognition of the disease, for the invasion has already passed beyond its reach. Mixed infection sometimes occurs. The saprophytic and streptococcic infection occur simultaneously, and these may be still further complicated by the presence of the gonococcus, the colon bacillus, and a horde of less familiar micro-organisms. Under such circumstances the wise course seems to be to control the saprophytic action by removing promptly any and all necrotic tissue which may be found in the genital tract, thus stopping the absorption of ptomains, and at the same time fighting the streptococcic infection by careful nourishment and stimulation. If, in spite of vigorous treatment along both of these lines, the patient goes steadily from bad to worse, or the convalescence is delayed, the question then arises, What more can be done? There is no doubt, as shown in the case just reported, that the walls of the uterus do become

permeated with pus to a degree that renders it impossible of disinfection, and the only hope of saving the woman's life lies in the radical removal of the organ. Experience has shown, however, that to decide just when the invasion has passed beyond the reach of the curette but is still retained within the confines of the uterus, is a simple impossibility. The more conservative clinicians maintain that in sapremic infection all that can be accomplished by operation lies within the reach of the curette; while in streptococcic infection the moment the resisting zone is broken through, either by artificial interference or by the aggressive work of the bacteria, the lymph streams are invaded, and the case is beyond the reach of local procedure.

To come out of the region of theory and generalization, my method of practically handling a case of puerperal sepsis is as follows: A chill and rise of temperature in a puerperal woman are never condoned by me as a probable milk-fever or a malarial attack. If a parturient patient has a chill, however slight, with rise of temperature to 100° F. or above, attended by a malodorous discharge from the vagina, my rule is, if no other well-defined disease is apparent, to at once place her upon a table, examine minutely the whole genital canal and pelvis, and explore carefully and thoroughly the entire endometrium with a sharp curette. This can usually be done without an anesthetic, the patient lying upon her back, and a posterior self-retaining retractor being used to expose the parts. The anterior lip of the cervix is then seized with a pair of volsellum forceps and drawn down until the uterus is steady. This opens the cervical canal and offers free access to the uterine cavity, as well as permits free drainage therefrom. Any piece of retained membrane or placenta is carefully removed, the endometrium thoroughly flushed with bichlorid, 1–3000, and afterward carefully washed with a normal salt solution, and the interior of the uterus thoroughly packed with iodoform gauze. Any raw surface of the cervix or vagina is touched with pure carbolic acid, and the vagina packed with a strip of iodoform gauze. The moment the indications for this treatment arise, I allow as little time as possible to elapse before it is put into execution. In my hands it has been uniformly successful, and I have never lost one of my own patients from puerperal sepsis, although I have had a number of cases in which there has been an undoubted infection, the symptoms first appearing on the third, fourth, or even as late as the sixth day.

It is rare to see cases in consultation as promptly as can be done in one's own practice, but in puerperal cases in which a chill and a rise of temperature with a malodorous vaginal discharge or a suppression of lochia, together with a suppression of milk, at any time from the third to the tenth day after confinement has occurred, I invariably advise a careful exploration of the entire genital tract, exploring the uterus with a sharp curette, douching it with antiseptics, and when indicated packing with iodoform gauze. The gauze is left twenty-four hours, and if the progress of the case is favorable, sometimes forty-eight hours. It is then removed, and vaginal boracic-acid douches are given daily, or the douches may be omitted entirely, and the vulva simply covered with an aseptic pad. In the meantime, free drainage of the lymph vessels and spaces is maintained by the open-bowel treatment, and the most stimulating nourishment and sustaining treatment is applied. Great reliance is especially placed upon the use of alcoholics, together with strychnin, strophanthus, and small doses of quinin, as may be indicated. Rarely is it necessary to repeat the local treatment, but in a few instances it has been resorted to with benefit. These cases have been characterized by an extreme amount of necrotic tissue at the time of the first curettage, and a continuation of the offensive lochia. If the symptoms are not arrested by this treatment, if there are signs of constant infection as indicated by a steady rise of temperature, a languid indifference and hebetude, sensitiveness over the uterus and broad ligaments, or chills with rise of temperature, the question of radical interference in the way of exploratory laparotomy suggests itself. My inclination, however, is to refrain from any such procedure unless I have very positive evidence of the presence of pus. Under these circumstances an operation is indicated, provided the general condition will justify it, and the extent of the procedure depends upon the condition found.

In the case above reported, the multiplicity and size of the pus collections in the walls of the uterus indicate that this process was in progress previous to the invasion of the appendages. This finds confirmation clinically in the prolonged constitutional resistance to the disease previous to the operative procedure. The probabilities are, therefore, that this patient's life might in all probability have been saved by an earlier resort to hysterectomy.

New Military Hospital at San Francisco.— Colonel Marshall, Chief Quartermaster at San Francisco, has received authority to expend $113.339.50 on the new pavilion hospital to be erected at the Presidio of San Francisco. This is about double the original appropriation, and provides for a much larger and better-built hospital than was at first contemplated, although the number of beds remains fixed at 400. Work will be begun on it as soon as possible, and it will be completed in six months.

SPECIAL ARTICLE.

THE MEDICAL NEWS' INVESTIGATION INTO THE CLAIMS OF CHRISTIAN SCIENCE.

By JOHN B. HUBER, M.D.,
OF NEW YORK;
ASSISTANT TO THE CHAIR OF PRINCIPLES AND PRACTICE OF MEDICINE IN THE NEW YORK UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE.

(Continued from page 78.)

I COME now to the presentation of the cases I have investigated. To every Christian Scientist who had the kindness to refer to me cases for investigation I stated that I did not wish to examine nervous manifestions of a hysterical sort, or purely functional disorders. I wished to see cases of disease in which the structure of the organs was likely to be or to have been involved. Having explained this to begin with as clearly as I could I took the subject's history and ascertained whenever possible the name of any physician who may have acted before he or she went "into Christian Science." Almost all of these physicians who live in New York I have visited; to the others residing here and to those who live out of town I have written, the form of the letter being generally as follows:

"DEAR DOCTOR: I am investigating Christian Science from the physicians' viewpoint, and am examining a number of people in the hope of presenting some twenty histories. These histories would, I think, be valuable only in so far as they would be scientifically accurate. Therefore, whenever possible, I request a medical account from any physician who may formerly have been in attendence. I have now under observation the case of Mr. X., who believes himself to have been cured 'in Christian Science.' I would thank you very kindly if you would send me whatever medical information you can concerning this case, with records of examinations if possible. And will you please indicate whether or not you would wish your name to appear; in the latter event it will not be published. The cases will be numbered, not named."

I have recorded my own observations of the subject's condition at the time of my visit. Comments not immediately relevant I have put in brackets at the end of the history. I have numbered the cases nearly in the order of the time of my seeing them. R. refers to regular, H. to homeopathic, and E. to eclectic physician.

CASE I.—An unmarried woman, thirty-eight years old. Father died at the age of sixty-eight of cancer of the stomach. Was born prematurely at seven months. Her mother fell from a chair to the floor and her birth resulted several hours afterward. From birth up to the spring of 1898 she never had the use of her feet except that she could progress on the tips of her toes by using crutches. Her arms were rigid and immovable; her legs were extended and could not be flexed; her lower extremities could not be separated, so that from the friction between the thighs there resulted an inflammation which required the constant application of zinc ointment. Until the spring of 1898 her back across the spine was a plain surface, the usual depressions about the spinal column being absent. The shoulders were raised and the head depressed between them; the chest and the chin were much nearer than in a normal condition. Up to this time she could not raise her feet and could not sit up. Under her arm, because of the use of a crutch, there had developed a tumor two inches in diameter. Was helpless in bed; could not turn around; could not move head or foot; "stomach was bulging." Attendants had to stand on the bed and move her about like a sack of salt. Until her tenth year she crept about; then she used wheel crutches until the age of sixteen. For two years during her early childhood she wore a "harness" and iron braces from her tenth to fifteenth year; from fifteen to twenty-one many other appliances were tried. She had shoulder-braces, which were strapped tight and "nearly broke her back." She wore at one time padded-iron braces down her back, applied along both sides of the spine, with braces across the shoulders and the lumbar region and down to her knees and fastened in front by belts. It was said that "her brain was too large at birth—a man's size." During childhood she had had a number of ailments—heart and kidney trouble, rheumatism, diphtheria, scarlet fever, dropsy, whooping-cough, jaundice, and involuntary flow of urine. As a child she was very nervous. Her speech was impaired. From childhood up to the spring of 1898 she suffered at various times from dyspepsia, kidney trouble, a tinge of diabetes, dropsy with swelled feet, hot flashes, chilly sensations, mist before her eyes, headaches, flatulence, heart would get weak and she would swoon, irregular courses—sometimes very free and at other times absent. She had great pain at times, was often irritable and despondent, and in 1895 and at other times had attacks of nervous prostration.

In March, 1898, while in Philadelphia she tried "mind cure." At first she got better even under the mind cure, but later she got worse. She says, "I met a number of people (among the "mind curers") who seemed to me queer; their actions were funny and I felt as if I were associating with people beneath me. They had no church, no Christ, and I wanted to get away from them. I tried to get away but they seemed to hold me in Philadelphia, and I couldn't tell why I stayed there. Their thought held me. Finally I made the excuse that I wanted to take a trip to Atlantic City and while there should take from them 'absent' treatment."

She went to Atlantic City, where she met the woman whose history is detailed under Case II., who influenced her to take up Christian Science. She has been in Christian Science since May, 1898; she now feels better but is not wholly well. She can now separate her knees and can sit up, can raise herself, and can now with assistance walk up steps. She has decreased about four inches in size at the waist.

Up to her twenty-first year Dr. A. (R.) was her family physician; she was also at various times seen by Dr. B. (H.), Dr. C. (H.), Dr. D. (H.) and Dr. E. (H.). Dr. A. writes that fifteen years ago he destroyed the records of all his cases up to that date; the following account is therefore from recollection. "When and at what time the paraplegia of her lower extremities was first noticed I do not remember, but I know that it was at a

very early age; do not know about the knee-jerk at that time; her mental functions were not impaired; no sensory disturbance present; pulse and temperature regular; appetite good; no difficulty in urination or defecation. Cold baths, mineral baths, animal baths, alcoholic lotions, and electricity were resorted to in the course of treatment without avail; internally chinin, iron, strychnin, etc., were given. After some time her father took her to Europe, consulting among others Professor F., and brought her home without being improved. Lost sight of her for a time; she went to Pennsylvania; did not see her again until last winter when she was carried by two servants from and to her carriage. What treatment if any, she had during this length of time I never heard."

Concerning the family history, her father and mother were healthy, there being no tuberculous or specific disease on either side. Her mother died from eclampsia after confinement more than thirty years ago; her father from cancer of the stomach. One brother, two half-brothers and two half-sisters are living and healthy.

This subject is below the average height, but the lines of the normal female figure are to a large extent obliterated. She is able to move her arms and to partly flex her legs. She sits in a chair, but more backward than ordinarily. Her movements are awkward. Aided by her maid, with what seemed to me considerable difficulty, she arose from her chair. Her heels were planted upon the floor. The maid being on one side and I on the other, she was able to walk across the room and back to her seat, progressing about six inches with every step. She leaned upon my arm rather heavily; possibly she leaned upon the maid still more so. She is thick of speech and her mental coordination seems rather slow. She appears otherwise to be in good health. [A very estimable woman.]

CASE II.—A woman, aged forty-six years; married at the age of thirty-one years. Eyes troubled her as a child. This trouble continued until she left school (after her sixteenth year). When about twenty years old an ophthalmologist (Dr. A.) pronounced her trouble "hereditary astigmatism, an organic malformation, not the result of any disease of childhood. Eyes were born wrong. If she had worn glasses at six she would not have had any trouble." The glasses prescribed were worn, with but slight temporary relief. This distress and pain continued about eight years. During this period she had nausea, vomiting, and pain over the eyes and in the eyeballs. Besides Dr. A., she saw Dr. B. and Dr. C. (H., now deceased). She then saw Dr. D. (R., deceased), who treated her several times for granulated lids. A year after she saw Dr. D. again. On this second visit he made a very thorough examination, and then put her case into the hands of Dr. E., his assistant. Dr. E. decided to change glasses, which was done. She was then to use Dr. E.'s prescription for reading and sewing, and the old glasses prescribed by Dr. A. for distant sight. After using Dr. E.'s glasses (made by a New York optician) a few weeks, her condition became such that she could not read, and when she walked it seemed as if the ground were receding, and again, as if she were going upstairs.

Such was the state of things until about February, 1888, when Christian Science came to her. She had become nervously run down because of the compulsory idleness and the fear of being considered stupid through lack of reading, etc. Up to this time she had read but one book, a volume of Prescott's "History of Peru." At first a Christian Scientist assured her that the pain could be relieved. Then the Christian Scientist asked her to take the book "Science and Health," and to read it. This she decided to do, and read the book through in one week, using her old glasses (not those prescribed by Dr. E.). The first evening she read seventy-five pages, and was amazed to find that she was afterward unaffected, whereas her former experience (before going into Christian Science) was that she would have headache, nausea, vomiting, etc. The day after reading these seventy-five pages she awoke feeling good, and she went on thus for a week, getting better and better. During the month following (although she wore glasses) she was perfectly free from pain. She felt exhilarated. Then the thought came to leave off wearing glasses, which she did. The first morning after discarding them she could not see; she was as before, and had nausea, vomiting, headache, etc. These symptoms continued three weeks. This was a "chemicalization." Nevertheless, she was determined to do without glasses, and continued for three weeks without their use. She knew it was not the glasses or the disuse of them which produced these symptoms. During these three weeks she read a sentence every day without using glasses, and the effort was accompanied by all the old suffering. At the end of three weeks (in April, 1888) she awoke one morning perfectly free from pain, and since then has not used glasses and has not had a return of the old symptoms. She believes the use of the glasses was not necessary, and that the "truth" which healed the trouble when the glasses were used, would heal the trouble as well with the glasses off.

Dr. A. writes that his record of this case, taken about twenty years ago, has been destroyed, but he recalls that she had "hyperopic astigmatism," which he thinks was corrected with glasses. He knew the subject in her youth as a woman in every way worthy of confidence. Dr. E. writes: "November 23, 1885. Mrs. X., aged thirty-three years. After a few moments of reading there is a strained feeling which is followed by nausea. There is also almost always pain. Cannot read ten minutes without pain. For seven years the trouble has been decided. Previously to that for several years she had worn colored glasses on the street on account of sensitive eyes. Had defective vision at school and thought she was nearsighted before the age of twenty-three. Used eyes freely at night during school-life.

R. V. $= \frac{20}{60} : \frac{20}{30}$ with $- \frac{1}{12}$ s. $\bigcirc - \frac{1}{60}$ c. ax. 180°.

L. V. $= \frac{20}{60} : \frac{20}{30}$ with $- \frac{1}{10}$ s. $\bigcirc - \frac{1}{50}$ c. ax. 180°.

November 24, 1885. Under atropin.

R. V. $= \frac{20}{80} : \frac{20}{30}$ with $+ \frac{1}{36}$ c. ax. 90°.

L. V. $= \frac{20}{100} : \frac{20}{30}$ with $+ \frac{1}{12}$ s. $\bigcirc + \frac{1}{36}$ c. ax. 90°.

November 15, 1885.

R. V. $= \frac{2}{20}$ with $+ \frac{1}{12}$ s. ⌒ $+ \frac{1}{30}$ c. ax. 100°.
L. V. $= \frac{2}{20}$ with $+ \frac{1}{12}$ s. ⌒ $+ \frac{1}{30}$ c. ax. 80°.

December 14, 1885. Ordered the last above.

November 8, 1886. Eyes better. Glasses helped her for some time, but now eyes pain and cannot use them more than half an hour sewing or more than ten minutes for reading. No glass better than her own.

November 11, 1886. Adduction 13°, abduction 5°.
Ordered for near rt. $+ \frac{1}{42}$ s. ⌒ $+ \frac{1}{30}$ c. ax. 100°.
lft. $+ \frac{1}{42}$ s. ⌒ $+ \frac{1}{30}$ c. ax. 80°.

Of course it is possible for a person young and possessed of his accommodation, with such an error of refraction as the above, to use his eyes without glasses. As to whether the person experiences pain in doing so we have to rely upon his evidence.

At her present age, forty-six, the lady probably does very little reading without glasses, as presbyopia is beginning to come on along with her "compound hypermetropic astigmatism."

I opened, at random, a Bible printed in easily readable type and asked the subject to read. She read without glasses some twenty lines and then wished to stop. It seemed to me she found the reading fatiguing. She refused to have her eyes reexamined.

[This subject seems exceedingly conscientious; to be afflicted, in fact, with a sort of moral hyperesthesia. "Chemicalization" is a figurative term referring to what seems to occur frequently in Christian Science. The patient, shortly after treatment is begun, becomes much worse, soon after which he becomes better and better. This is explained somewhat as follows: The "acid" influence exerted by the healer acts upon "alkaline" error (the disease); a precipitation occurs, above which appears the pure, clear fluid "truth," as exemplified in Christian Science.]

CASE III.—Widow, aged sixty years. Father died of consumption. Had weak lungs from childhood. Had womb trouble with convulsions from time to time from her eleventh year. At the age of nineteen had pneumonia. As long as she could remember has had a fall and winter cough. Being troubled with uterine cramps, diminished flow and clotting, she went to the sanatorium of Dr. Thomas Addis Emmet in New York during the winter of 1868–69. Married in 1872. Menses still painful and irregular. Son born in 1873. Then had partial paralysis on right side for three years; up to the year 1875 she had to be lifted in and out of her carriage. In 1879 had pneumonia while living in Brooklyn (would not give physician's name). From 1879 to 1883 she was in delicate health. In 1885 she had pneumonia again, being treated by Dr. C. (R., now deceased). She had yellow fever at one time while at New Orleans. In 1890 had the grip. Treated by Dr. D. Her heart at this time was very weak. In 1891 she fell in a boat upon the end of her spine. She was in great agony and suffered what she understood from her physician to be coccygodynia. She had sensitive spots in the small of her back.

She was in this condition from the fall of 1891 to December 22, 1893, suffering practically all the time. Up to her fortieth year she had had good eyesight; at that time astigmatism was discovered and then for fifteen years she wore glasses. She had different glasses prescribed by Dr. E., for reading and for distance; she also wore stained glasses. Her weakened condition resulting from grip took her to the sanatorium of Dr. F. Here "the brain of an ox, the stomach of a pig, the liver of a fish, and dead flies (Spanish) were her gods"; these substances were given by hypodermatic injection or by the mouth. She had also electricity, baths, and massage. During this period she had attacks of nervous prostration and from time to time had cataleptic spells.

In October, 1893, she came upon the book "Science and Health." In spite of the doctor's admonition not to use her eyes she began reading it. It helped her eyes and her spine. Her back was a little better after beginning to read. Then she gradually improved. At first she used two pair of glasses, reading only a paragraph at a time. The thought came to her that God did not send the sickness. Then came "the light" that God could be her strength. She had been an Episcopalian, and had a son studying for the ministry. After reading fifty pages "it came to me that if God is my strength, I should get out of bed. Why do I lie here? Don't mind if back is worse. Then I got up and walked a few steps." Since then she has been able to walk. About three weeks after beginning to read "Science and Health" she walked out of doors. She left the sanatorium December 22, 1893. Had not taken medicine by the mouth for a month before she left, but until her departure she took electricity, baths, massage, and hypodermatic injections. Then she went to Washington, D.C., arranging to return if she did not feel well in two weeks. She states that no medicines have been taken for five years past. She held firm to the thought that God is love; she did not fear and therefore she did not become sick. At one time she had cramps ten consecutive nights; she would fight by "Science," and in half an hour the attack would disappear. She also had urticaria with these attacks of colic; "big welts" came upon her; this was also treated by "Science." She had "belief" in pain in head and eyes from December, 1893, until the summer of 1895. She then determined not to use glasses, and has not used them since. Can now read without difficulty. In January, 1898, had "pneumonia" for the fourth time. States in answer to questions, without which she found it difficult to recall symptoms, that she had fever (no thermometer used, but she felt hot), was short of breath, had catch in side, had "congestion" in head, coughed frothy blood, had a dry mouth, thirst, and aching in limbs. No physician had made a diagnosis. With this "pneumonia" she walked in a snowstorm more than half a mile from the house to the church four different times for four treatments. During this illness she had feelings of exhaustion. Her heart beat fast from time to time. Once she fell over on the bed, but with an effort she got up, being determined not to lie down.

Dr. Emmet does not know anything about this woman and doubts if he ever saw her. On his books of about that time there is a record headed with the same initial as that of this woman's surname (Miss X), who may or

may not have been the same person. This record is of a case of anteflexed uterus.

Dr. D. writes: "In manner she was decidedly gushing, some thinking her insincere, others perfectly sincere. She entered actively into church and mission work, etc. She was enthusiastic in all things, and as I especially remember, an enthusiastically grateful patient. I treated her for grip. I am positively able to recall that my impression of her character was that while she was rather gushing and enthusiastic, she was sincere in so far as her peculiar nervous organization permitted, and that she was a person whose views and feelings might easily undergo a change. In fact, the type was a neurasthenic one, and I am not surprised that she has become a so-called Christian Scientist."

[This subject is a "healer," and treats others. She is excessively nervous. During the conversation while walking across the floor she illustrated in an exaggerated and theatrical manner how she got out of bed at the sanatorium in 1893, etc.

Dr. Emmet recalls the case of a woman with pelvic peritonitis who had been an invalid for years. She was brought from Honduras to his sanatorium, where she remained for one year. For eight months of this time she lay bedridden. Toward the end of the year she was cured. Then Dr. Emmet sent for her husband to come and take her home. In the meantime she lived at the sanatorium, going about the city in good health, shopping, play-going, etc. One day she entered a Christian-Science church; she claimed she was cured there in a few minutes. She then consulted a lawyer for the purpose of suing Dr. Emmet for the money which had been paid for his services.]

(To be continued.)

MEDICAL PROGRESS.

Ectopic Gestation Twice in One Patient.—Ross (*Amer. Jour. of Obstet.*, etc., December, 1898) reports an unusual and interesting case of a woman, aged 26 years, who, while nursing a baby seventeen-months old, developed a tubal pregnancy of the right side. The tube was removed, and although it had not ruptured there was a large amount of tarry blood in the abdominal cavity, which had leaked out of the fimbriated end of the tube, drop by drop. There was slight peritonitis following the operation, but recovery was perfect. Two years later the symptoms of extra-uterine pregnancy again appeared, and again the abdomen was opened, and the left tube containing a fetus between one and two-months old was removed. The patient recovered. This is the second time that Ross has had the unusual experience of operating twice upon the same patient for ectopic gestation.

State Regulation of Marriage.—Burr (*Jour. Amer. Med. Ass'n*, December 3, 1898) holds that the State should require every applicant for a marriage-license to present a certificate from a physician in proof of the fact that he is free from acute and latent gonorrhea and syphilis in a form to be communicated, as well as from tuberculosis and insanity. He maintains that the publicity thus attracted to latent gonorrhea would do much to acquaint the world at large with the evils to the innocent party which marriage often causes. Noeggerath and Ricord taught many years ago that the majority of males become gonorrheic usually before matrimony, and that ten to thirty per cent. of females become so usually after marriage. Such legislation would do more than anything else to bring this knowledge to the minds of those most concerned and would create a public sentiment against the male libertine which does not exist to-day. It would besides save the State an immense outlay for the support of idiotic, deformed, and insane children, and would be a long step in the direction of a condition in which the birthright of every child shall be good health. He presents a blank form of a bill to be passed by legislators to accomplish these objects.

Sensitiveness of the Cervix and the Vagina.—Calmann (*Centralbl. f. Gyn.*, November 12, 1898) has investigated the sensitiveness of the vagina and cervix with a view to determining the reliability of testimony of a woman as to the character of instruments passed into these organs. He finds that most women, whether they have borne children or not, are not able to differentiate between the passage of a catheter into the urethra and into the vagina, and that they cannot decide when water is drawn from the bladder through the catheter, unless the bladder is very full, or they hear the sound of the water. The sensitiveness of the vagina is so slight that most of the women tested were unable to determine at all when an examining finger touched the vaginal walls, provided the vulva was not disturbed by its passage. Sensation in the cervical canal is more acute than in the vagina, but most of the women could not say whether the instrument was in the vagina or in the uterus. Sensation during pregnancy is not more acute than at other times. Cold was often recognized, but heat of 40° C. (104° F.) was never noticed. Strong disinfectants, such as carbolic acid or bichlorid of mercury reduced the sensitiveness.

Voluntary Asexualisation.—McCassy (*Jour. Am. Med. Ass'n*, December 3, 1898) makes a suggestion in regard to the asexualisation of certain criminals, notably those who have been guilty of rape, that seems to do away with the objection which society has to depriving a man of his testicles, even when he has used them to destroy the happiness of his fellows. He proposes that criminals of this kind should be sentenced to prison with the understanding that at any time within a year, if they so desire, they might submit to castration and go free. As the imprisonment for such offenses is from five to twenty years he is of the opinion that few men would hesitate to accept freedom on these terms, and as they would be in a condition which would make a repetition of their offense impossible, there would be no reason for detaining them longer at the expense of society. An additional advantage to society would be found in the limitation of the offspring of criminals of this class.

THE MEDICAL NEWS.

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OF MEDICAL SCIENCE.

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SATURDAY, JANUARY 28, 1899.

THE EXCHANGE SYSTEM AMONG JOURNALS.

IT has been the custom among all periodicals to carry out a friendly exchange week by week or month by month until at the present time the exchange-list of every prominent medical publication contains a very considerable number of journals, from which the editor gains valuable material if he desires to place before his readers in editorials or in abstracts a general idea of the progress of current medical literature. The perusal of these journals also keeps him in touch with the needs of his readers, and he is able to recognize the faults and advantages of his contemporaries so that his own pages are the well-rounded-out results of an intimate knowledge of contemporaneous editorial work.

Our attention has been called to this matter by the decision of one of our contemporaries to cease exchanging with all journals at the beginning of the present year, intending, it is said, to subscribe for those journals which it requires, in this way avoiding exchange with a number of periodicals which are useless to it. By the carrying out of this process of exclusion, it seems to us that a small expense is saved and a large loss accumulated, not only to the journal and its editorial staff, but also to those who may see fit to publish original articles in its pages, for not only will the editorial staff be limited in its field of vision in medical literature, but there are many articles of great value published from time to time in journals which ordinarily contain little of value, which will be overlooked; and furthermore, original articles appearing in our contemporary will not be abstracted in other journals and therefore the author of an article will only have the readers of the first periodical, whereas, had a number of journals abstracted his article, his name and work would have appeared before a very much larger proportion of the profession than one journal can possibly reach.

We have watched, during the last few weeks, the editorial comments which have been made by our contemporaries in regard to this plan and we have been struck with the unanimity with which they have prophesied the continuance of the exchange system among the remaining journals in the medical field, both upon the basis of fraternal feeling, commercial advantage, and editorial usefulness.

THE WORLD'S MEDICAL LITERATURE.

IN the Exchange Department of the MEDICAL NEWS are found the best medical journals of every part of America and Europe, as well as of India, Japan, and Australia. In all, 133 weekly and monthly publications were regularly searched last year that the best medical literature of the world might be placed in condensed form before the readers of the NEWS.

How best to present these abstracts has been the constant thought of those who have charge of this department. In journals which make a special feature of abstracts, it has sometimes been the custom to select a dozen or twenty of the best exchanges and give abstracts of their articles under their own names and dates. The systematic appearance of the pages appeals to one at first sight, but, in many instances, it is a great waste of space, as it compels the printing of many abstracts which would never be given were it not for the fact that the articles thus abstracted appeared in the chosen exchanges. Furthermore, by this plan many good articles are neglected because they appear in some paper whose general standard does not entitle it to be placed among those regularly abstracted in full.

The aim of the NEWS is rather to select from the

whole list of exchanges such articles as have an especial interest irrespective of the paper in which they are published. By this plan, in the year just passed some 313 abstracts were printed, taken from no less than ninety different papers. It is seldom that a single number of a medical paper contains more than two articles worth abstracting. Often there is only one. Whether many or few, it is our purpose and effort to give them in the briefest possible form consistent with clearness, and the physician who follows these pages from week to week will not only gain many valuable suggestions in the treatment of disease, but will be kept reasonably informed of the "Progress of Medicine." For the specialist there are special journals which chronicle the advances in his chosen subject. The columns of the "Exchange Department" belong to the general practitioner of medicine and surgery, and that which is printed in them the educated physician should not allow to escape him.

THE ORIGIN OF EPIDEMICS AND SOME ANALOGIES.

THE recent epidemic of contagious disease of the genus influenza which has been so widespread throughout the country has not only caused many cases of serious sickness but has been the occasion, through its complications, of many fatalities. In comparatively small towns and even in country places there have occurred cases that pointed to the presence of some special infective agent. Just where it came from and just what were the peculiar circumstances and conditions, meteorological and otherwise, that favored its growth at this particular time remains a mystery.

There are analogies to this as yet inexplicable phenomenon that are very curious and peculiarly interesting to the medical man because of the light they may shed upon the origin of epidemic disease.

A correspondent of *Science* reports the occurrence recently of swarms of strange butterflies, probably *anosia plexippus*, in the neighborhood of Topeka, Kan. There were so many of them that they prevented work out of doors, practically stopped all business for a time, and stopped railway trains by their presence in crushed, slippery masses upon the rails beneath the wheels. The correspondent recalls the occurrence of a similar swarm at Unadilla, Neb., in 1885. Whence they come and why they happen to arrive thus at unknown intervals in such unusual swarms is as yet unknown.

During September of last year dwellers along the shores of Providence Bay, Rhode Island, noticed that the water of a considerable portion of the bay became thick and red, emitting an almost intolerable odor. On the 9th and 10th of September thousands of dead fish, crabs, and shrimps were found strewn along the shores or even piled up in windrows. Only where the water had assumed a deep red color were the fish found dead, though for several days before this myriads of shrimps and blue crabs and vast numbers of eels, menhaden, and flat fish came up to the surface and to the edge of the shore as though struggling to get out of the noxious water.

It was commonly believed that dyestuffs or other refuse emptied into the rivers at the upper part of the bay gave to the water its color and unpleasant odor, but microscopic examination showed that the water was swarming with minute organisms, a species of *peridinium*. *Peridinium* is ranked, by some, among plants, by others among the animalculæ. It is reddish brown in color and occurring in such excessive abundance gave to the water its peculiar color and odor, besides making it so opaque that a white shell six inches below the surface could scarcely be recognized. The correspondent of *Science* who reports the fact thinks that the *peridinium* was the cause of the mortality among the inhabitants of the sea, an actual epidemic of microbial origin. The occurrence is extremely interesting and is important because here, as also in the case of the butterflies, the conditions of its origin are either simpler or are brought about by factors that may be easier to discover than the inscrutable origin of influenza. Let us hope, as seems not improbable, that the natural sciences thus working together will soon give us the key to this important problem.

QUININ IN MALARIA—A CONVERT.

THE *Journal of the American Medical Association* in the issue of November 12, 1898, said editorially:

We believe that great caution is necessary concerning the use of quinin particularly when the kidneys are involved. . . . No less an authority than Koch on his return from Africa asserted that the abuse of quinin in severe malarial infection of the

estivo-autumnal type is responsible for many of the complications seen in the malignant forms of malaria in that country. . . . The estivo-autumnal parasite most frequently produces nephritis, and is least affected by ordinary doses of quinin. In other words, that form of malarial infection which by its persistency would lead to the use of large quantities of quinin, also produces a condition of the kidney which makes the use of large doses of this drug of doubtful advantage.

We protested against the tone of this editorial and its implied discouragement of the free use of quinin in severe attacks of malaria especially of the estivo-autumnal type. We said that the writer of the article could be classed only with those who have had little or perhaps no experience with serious cases of this disease. Dr. Hare saw fit to answer our protest. It seemed clear to him that our ignorance of the question was most profound. His unasked for championship of the *Journal's* position in the matter was evidently unappreciated by those most interested, for we are glad to note that the editor of the *Journal* has realized that these editorial expressions are, as we said, calculated to do a great deal of harm. The issue for January 14th contains a complete and most satisfactory editorial recantation — "Quinin in Malarial Hemoglobinuria." We quote it:

The foremost physicians who practice in malarial districts are not afraid of quinin. If four grains of quinin every four hours will not break up a chill, ten and fifteen grains are given with impunity and without producing a hemoglobinuria, and if fifteen will not suffice in a case of pernicious fever thirty grains are frequently given hypodermatically. The toxin of malaria causes a hypertrophy of the spleen, will destroy the red blood-globules, will cause a chill and, being poisonous [to say that a toxin is poisonous smacks somewhat of tautology], may irritate the kidneys while quinin has *never been proven* to be the *etiologic factor* in *any* of *these conditions* [italics ours], and therefore must be the least causal agent in the production of a symptom for which it should be used.

LAMENTABLE INCONSISTENCY.

THE *New York Times* has, since the death while under the care of a so-called Christian Scientist, of its London correspondent, Mr. Harold Frederic, taken a most commendable interest in exposing this humiliating and disgusting modern device for exploiting and perverting the religious instinct. *Macte virtute!* the cause is one worthy of a great newspaper, and the *Times*, we are sure, has won golden opinions from thousands of sensible readers for its excellent work in this direction. It is to be regretted that other great journals do not realize the magnificent field there is in such matters for real benefit to their readers.

But now that we have said thus much in praise may we be permitted to call the attention of the *Times* to the fact that in its advertising department it is lending itself to "most humiliating and disgusting modern devices" for exploiting that other instinct which is quite as precious as the religious emotion, the feeling in humanity that makes for self preservation. Every day its columns contain advertisements of so-called proprietary remedies which would not require a seer in the editorial office to recognize as "disgusting devices" for taking advantage of the feeling that sends the poor invalid wherever there is held out to him the hope of relief. It is folly to say that these remedies and quacks are not known to be such. They are a good deal worse than the Christian Scientists because they reach a greater number of people and because a great newspaper knowingly and for pecuniary reasons lends itself to their service.

The *Times* said one day last week "As for newspapers, not a few of them, whether from cynical indifference or interested partiality we do not know, do not find it incompatible with decency to fill column after column with the blasphemies and imbecilities of the Scientists."

This is all very true, but in the meantime the *Times* seems to be very unconscious of a particularly large and conspicuous beam in its own eye. On the very day on which it published the expressions quoted above as to the position of other newspapers with regard to Christian Science, it gave in its columns what seems uncalled-for prominence to a report, two years old, of tuberculosis in the houses of certain wards of New York City, and permitted as a reading notice just above it the advertisement of a man calling himself a tuberculosis expert. This man may be what he professes, but his assumption of unethical, unprofessional methods in proclaiming himself, ought at least to arouse suspicion as to his claims in the matter. His advertisement was worded with reference to the *Times'* belated account of a two-years' old report. Was there collusion between the news and advertising editors? and are not even the

news columns of a respectable journal that claims to be the opposite of yellow not to be protected from the intrusion of these "humiliating and disgusting devices" for making money out of poor suffering humanity?

ECHOES AND NEWS.

St. Vincent's Hospital of New York.—This hospital began its work in 1849; it will shortly celebrate its golden jubilee. An addition, about to be completed and furnished, has cost $300,000.

A New Vice in Paris.—Medical men in Paris have discovered a new vice to add to the many to which Parisians are already addicted. It goes under the name of petrolism, and a man who is a petrolique is one who drinks petroleum. Although this form of vice has but recently been discovered, the habit has probably existed for some time.

New York Foundling Hospital.—At the last meeting of the Medical Board of the above institution the following new members were elected to the Board: Attending obstetrician and gynecologist, John Aspell, M.D.; attending physicians, L. Emmet Holt, M.D., and Rowland G. Freeman, M.D., successors to J. Lewis Smith and Joseph O'Dwyer, deceased.

"The Medical and Surgical Review of Reviews."—This is a new English monthly which the editor hopes will fill, for medical literature, the place that Mr. Stead's *Review of Reviews* does for ordinary current literature. Tne first numbers show a careful editing and a thoroughly practical selection and condensation of the medical articles of the month that speak favorably for its usefulness to the profession.

Acids in Refrigerated Beef.—Surgeon Major Daly has furnished to the War Investigating Commission a precipitate which, he testified, was secured from an extract of so-called refrigerated beef on the transport "Panama." This beef was supplied for consumption by our troops in the late war. The precipitate furnished was on January 20th submitted to a chemical examination by Major Daly and Professor Clarke in the Government laboratory of the Geological Survey, with the result that it was found to contain boric and salicylic acids.

The Medical Department of the Kentucky University.—The annual session of this university began on January 2, 1899, under most favorable auspices. The following gentlemen, formerly professors in the Kentucky School of Medicine, were elected to Chairs in the Kentucky University: Dr. J. B. Marvin, principles and practice of medicine and clinical medicine; Dr. J. M. Holloway, professor of surgery and clinical surgery; Dr. C. W. Kelly, professor of anatomy; Dr. S. E. Woody, professor of chemistry and diseases of children.

The Remains of Soldiers Who Fell in Cuba and Puerto Rico to Be Returned.—Quartermaster-General Ludington has completed the arrangements for bringing back the bodies of soldiers buried in Cuba and Puerto Rico. They will be brought North in metallic caskets early in February by Government transports. Duly authorized relatives or representatives of the families of deceased soldiers who wish the remains sent to their homes are requested to notify the Quartermaster-General at once of such desire, stating in full the name of the soldier.

A Venereal Veteran of Ye Olden Type.—At his morning clinic for skin and venereal diseases at the Charité, Professor Lesser recently introduced to the class a patient showing the following: Chancroid which had destroyed most of the prepuce, right inguinal suppurating bubo, gonorrhea, gummata of the skin, perforation of the hard palate. Among the many beautiful tattooed designs on the breast of the patient was the following device:

"Wer lieben will muss leiden,
Ohne leiden liebt mann nicht!"

New Quarantine Stations.—President McKinley has signed an order placing the quarantine stations of Cuba and Puerto Rico in charge of the United States Marine Hospital Service, and providing new health regulations to meet the requirements of the close relations of the United States with those Islands. Since the quarantine service thus provided for is for the protection of the islands of Cuba and Puerto Rico as well as for the protection of the United States against both, the expenses arising therefrom will be charged equally against the revenues of these islands and the epidemic fund of the United States Treasury, payments to be made out of the epidemic fund and reimbursements made thereto from the revenues of the two islands.

The Indigent Insane,—The problem how best to provide for the increasing number of the indigent insane is a pressing one in several States. Many ways have been suggested from that of centralization in large State institutions to that of county hospitals. In Minnesota preference is given to the colony system for extending the existing accomodations. This is advocated on the ground that it combines centralized management with decentralized care of those who need least care and at a minimum of initial outlay and per capita cost. On these farm-colonies the insane occupants are expected to be nearly or quite self supporting. Dairying will be the chief farming industry pursued, as milk is the leading article of diet in the hospitals, and as this ruminative occupation is regarded as particularly soothing for disordered minds.

A Neolithic Lady.—Professor Brinton of the University of Pennsylvania notes in a recent number of *Science*, the presentation at the meeting of German Naturalists and Physicians this fall, of the bust of a female whose skull and portions of whose skeleton had been exhumed from a neolithic grave in one of the caverns of South France. Some modern examples have shown that, with the bony frame-work to build on, the soft parts of the head and chest can be restored without risk of error. The bust of the neolithic lady thus restored represents her as rather good looking and with features undoubtedly of the white

race. Professor Kollman of Basel, who superintended the reconstruction insists on the fact that empires may crumble and states decay, but the essential features of each human race persists indefinitely and unchanged.

"Poisonous Frocks."—Under this caption a prominent New York contemporary in a recent number quotes from the *Wiener Medicinische Blätter*, and comments editorially upon the story of the dermatitis gangrenosa set up in the snow-shovellers of Birmingham, England, some time ago, by the presence of chlorid of zinc in their *overfrocks*. As the garments in question were plain, everyday English overcoats supplied by the municipal authorities of Birmingham to the workmen, their metamorphosis (a true degeneration) into *frocks* and *overfrocks* during the story's Rund-Reise in Germany is an amusing one. We wonder just what mental picture was called up to the *Journal's* readers by that rather unusual English word "overfrock." Anglo-Saxon medical stories like other emanations of Anglo-Saxon intellect, do not seem to be improved by being made over in Germany.

Kleptomania.—This unscientific term seems the only one that can appropriately be applied to many cases of theft by women which can hardly be explained if normal mentality be assumed for those guilty. These cases must surely interest the alienist. The last one reported in New York is that of a woman worth $175,000 who was arrested for a $2.75 theft. This woman, states a daily paper, "has everything that money can buy, and has always held a high social position." Or, is the peculiarity under consideration an inevitably inharmonious trait (necessarily inevitable in a world in which nothing is absolutely perfect) in an otherwise perfect sex? For example, it is said (although the writer has himself never come upon any such instance) that the best of women would hardly be likely to remind a forgetful street-car conductor that her fare had not been collected.

Practical Work for the Relief of Defective Sight and Hearing among Public-School Children.—According to the *Brooklyn Medical Journal* the suggestion made by the Committee on Public Health of the Medical Society of the County of Kings, that an examination should be made of the sight and hearing of the children attending the public schools of Brooklyn, has borne abundant and valuable fruit. During 1897-98 50,000 children were examined with the result of finding that nearly one-third had defective sight, hearing, or both. To supply spectacles to the poor a fund has been established under the fostering care of the Brooklyn Teacher's Association, which has shown its great interest in the movement by contributing $150 as a nucleus of the fund, and by undertaking to solicit funds from those interested. This fund is to be drawn upon only by requisition from a school principal, endorsed by a physician, who must certify to the worthiness of the case. It is estimated that $5000 will be needed.

Fees of Medical Experts May Be Inquired Into.—A medical expert, testifying in the New York Court on behalf of the plaintiff in a case for damages resulting from injuries received in a street-car accident, was on cross-examination asked what compensation he was to receive for his services in the case. The question was excluded, but on appeal the ruling thereupon was held to be erroneous, and the judgment, which had been for the plaintiff, was reversed. Justice Cullen, who delivered the opinion for the appellate justices, said: "It is not necessary to descant on the discrepancies in the evidence of expert witnesses, depending upon the side for or against which they are called, nor shall we deliver a homily upon such testimony. But, with the imperfections that are conceded to exist in expert testimony, we think that the plainest dictates of justice require that the opposing party should have every opportunity to inquire into the fairness and interest of the expert, as well as into his scientific skill and knowledge. Plainly, the size of a fee a witness is to receive for his testimony may, in the case of a weak character, bias his judgment, and the parties and the jury are entitled to know just what compensation an expert witness has received or is to receive."

Gangrenous Dermatitis from Poison in Clothing.—The English medical journals reported in their issues for December 3d, a very serious case of gangrenous dermatitis from poison in overcoats. The men employed by the city of Birmingham to clean the streets after the November snow-storm, which was severe in England as well as in this country, were provided by the City Council with overcoats. The drippings from these, especially from the sleeves and the lower borders produced large sloughs on the men's wrists and knees. Over sixty of the employees were affected. The external symptoms were large patches of sloughing skin, dark green in color, surrounded by a very inflamed edematous area. There was a good deal of heat and smarting about the inflamed patches and considerable adenitis of the nearest lymph-glands. Large quantities of chlorid of zinc, with which the cloth had apparently been treated in the process of manufacture, were found in the overcoats. The extreme solubility of the chlorid of zinc caused it to be taken up and carried with the dripping water to the edges of the garments and so in contact with the skin. The warmth of the skin caused evaporation of the liquid and consequent concentration of the solution so that it produced the powerful escharotic effect which chlorid of zinc, even in weak solutions, is known to have. Had these cases occurred sporadically and been treated by a number of medical men who had seen but one or two the discovery of the etiology would not have been so easy. The cases will be of importance to dermatologists in pointing out a, perhaps more frequent source, than is usually supposed, of *dermatitio venenata*.

Physical Differences of Colored and White Children.—In a recent number of the *American Anthropologist* Dr. Ales Hrdlicka, the Assistant in Anthropology of the Pathological Institute of the New York State Hospitals, described the physical differences he found to exist, after a series of careful examinations, between white and colored children. As some recent interest manifested in the dif-

ference between the newly born of the two races may extend to children of a larger growth, we abstract some of the details. Dr. Hrdlicka examined 1400 children, 300 of whom were negroes. He found that the whites had more diversity of physical peculiarities, the negroes showing distinctly more uniformity in this respect. Though the negroes were on the average taller by one to three centimeters (nearly one-half to one and one-fourth inches), the whites averaged heavier in weight. The negro head is smaller in size. The dentition of colored children is much more regular than that of the whites and their irregular setting of the teeth so common in white children is very rare in the colored. The arms are longer relatively to the height in the colored. In boys the penis is longer. The colored girl up to the age of puberty remains much more like a boy than does her white sister. Many white girls present, even at as early an age as eight, distinctly feminine characteristics, the waist is somewhat constricted, the hips have become prominent, the thighs are fat and rounded in marked contradistinction to the muscular contour of the boy at a corresponding age, and the shoulders and thorax are suggestively feminine in outline. We think that these racial details of the formative stage give an excellent chance to theorists. There is undoubtedly a basis in some of them,—the smaller heads, the longer arms, etc., of the negro,—for the anthropological theory that the negro is nearer the animal ancestor from whom man proceeds in his evolution; on the other hand, the want of uniformity and their running to weight rather than height might be made to argue degeneration on the part of the whites. The sociologist may find a reason in the precocious development of femininity in white girls to berate the modern social system that is evidently bringing this about. It is a long while since the sacred writer said that the earth was given over to the discussions of men, but the field is still open.

"Infectious Disease Reporting" under a Fee System.—Dr. Paddock Bate of Bethnal Green, London, in his annual report for 1897 points out some of the tribulations confronting a health officer when the local physicians are allowed a fee for making reports of contagious diseases. The notification fee is half a crown, or about sixty-three cents. Duplicate reports were received and paid for in nearly six per cent. of the total certification. It would appear that the law is so framed as to unintentionally permit of the payment of partners in a medical firm if each of them reports the same case. Dr. Bate says this duplication of certificates represented a cost of $65, and that the expenditure of this sum is pure waste, though unavoidable by the wording of the law. In nine instances the notification certificates were withdrawn by the reporter, the lapse of time having afforded an opportunity to amend the original diagnosis. In ten cases there were no grounds to justify the practitioner in reporting the case as one of infectious disease. "A certain medical man certified thirteen cases of membranous croup within a month. I made no examination of the first half dozen, but could not help noticing that the patients did not appear urgently ill when the premises were visited in the ordinary course of my duties. One morning four of these certificates were sent in, whereupon notice was given the certifier that I should personally examine these and any future cases of membranous croup he might report. I did so, but failed to find symptoms of laryngeal obstruction in any instance. I reported the result of my examination to the Sanitary Committee and the fees for the certificates were disallowed as to the cases I had personally investigated, together with another certified on post-mortem examination only. This was the subject of an inquest. The child was found dead in bed; the jury brought in a verdict of suffocation on the medical evidence; on the same afternoon I received a notification that the child had suffered from membranous croup, though nothing was said about this at the inquest. I may just mention that this was the only fatal case out of the whole thirteen, a magnificent testimonial to the skill of the doctor, supposing his diagnosis to have been correct. The medical man, referred to, wrote protesting against his fees being disallowed, but took no further action beyond ceasing to certify membranous croup."

CORRESPONDENCE.

INHALATION OF CAMPHO-MENTHOL IN THE DIAGNOSIS OF PULMONARY TUBERCULOSIS.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—Every sign and symptom which will in the early diagnosis of pulmonary tuberculosis will be of great value to the physician. The ordinary physical signs are familiar to us all. There is one subjective symptom which has proven of very great value to me in revealing an early pathological change in the lungs in those cases in which the ordinary physical signs were absent. This diagnostic sign I have used for the last four years and have followed up the cases subsequently, and almost without exception it has proven to be trustworthy. It is a well-known fact that in pulmonary tuberculosis one side usually becomes affected first, and furthermore, that the process is usually more severe on one side than on the other. The diagnostic symptom as used by me is as follows: If the patient is made to take a deep, strong inhalation of campho-menthol in albolene (20 drops to ʒi) from an atomizer at thirty-pound compressed air-pressure, and he then be asked upon which side of his chest he feels most distinctly the cooling sensation of the campho-menthol, he will almost invariably tell you on the least affected side, and the degree of cooling sensation will be less the more diseased the lung tissue should be. In cases in which there is marked consolidation on one side and very slight on the other the patient may even be unable to feel the cooling sensation whatever on the most affected side. If in the very earliest stages, when the ordinary physical signs fail and something leads one to suspect from the history that pulmonary tuberculosis is present, he makes use of the campho-menthol inhalation, and if he then notes that the patient says the cooling sensation is decidedly more distinct on one side than on the other he will almost invariably find that later the side of less-

distinct sensation will show the ordinary physical signs of pulmonary tuberculosis.

This test is, of course, not meant to apply in acute pneumonia or capillary bronchitis and acute pulmonary troubles of this kind, but simply in those cases in which there is a suspicion of pulmonary tuberculosis. Even in such cases as these, however, it might show the symptoms of some consolidation and exudation in the smaller bronchial tubes, yet I have never had occasion to test it in these cases. I have had cases in which there were absolutely no signs of anything but a chronic bronchitis, and yet these same patients under the campho-menthol test have revealed pulmonary tuberculosis which later became fully developed. In simple chronic bronchitis the patient will feel the whole chest glow with the cooling sensation almost as perfectly as in normal lungs, and yet when tuberculosis is present even though they are strong and hearty the sensation may not be felt below the top of the sternum.

Perhaps there are others who have noted these same symptoms, but I have never seen them recorded. I should be glad to have the test given by others and to see published honest criticisms, even though adverse, for I do not claim that it is an infallible sign.

DUNBAR ROY, M.D.

ATLANTA, GA., January 18, 1899.

AGAIN THE COLOR OF NEGRO BABIES.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—In regard to the controversy now raging on both sides of the Atlantic as to the color of negro children at birth the following opinion of a recent writer on African anthropology (Mr. H. Ling Roth, in the *Journal of the Anthropological Institute*, London, n. s., 1, p. 104) is notable for its amusing concisiveness: "Pure negroes when born are pink, like young rats; at the end of about three or four months they become black."

F. H. GARRISON, M.D.

WASHINGTON, D. C., January 9, 1899.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

CELEBRATION OF THE FIFTIETH ANNIVERSARY OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY (CONTINUED)—THE SAMUEL D. GROSS PRIZE OF THE PHILADELPHIA ACADEMY OF SURGERY — SOME SPECIMENS PRESENTED AT THE PATHOLOGICAL SOCIETY—A SANATORIUM FOR CONSUMPTIVES PROJECTED—ELECTION OF OFFICERS OF THE MONTGOMERY COUNTY MEDICAL SOCIETY AND OF THE GLOUCESTER COUNTY MEDICAL SOCIETY — PERSONAL NOTES—OBITUARY.

PHILADELPHIA, January 24, 1899.

ON Sunday evening Rev. Dr. K. Boyce Tupper delivered a lecture on "The Ideal Physician," at the First Baptist Church. St. Luke was the ideal physician. The requisite qualifications are manliness, love of calling, and high spirituality. After the sermon a collection was taken up for the Mutual Aid Society, an institution with in the County Society, for which a substantial sum was raised.

Monday evening about 350 members were present at the dinner which was held at Horticultural Hall. Dr. S. Solis Cohen presided with Dr. Jacobi of New York at his right and Mr. Baugh at his left. Dr. Cohen acted as toastmaster; the first toast, "Our Founders," was responded to by a letter from Dr. Stillé, one of the founders, who was unable to be present. Dr. W. W. Keen responded to "The Philadelphia County Medical Society," in which he eulogized its early members, not only for their part in its founding, but for their skill. Ten of the fifteen original members had become authors, he said, and their books well bear inspection.

Mr. Daniel Baugh then spoke of "The Medical Journal" and the Rev. Dr. Charles Wadsworth, Jr., responded to the toast, "The Clergy," in which he pleaded for true fellowship between the professions. "The Law" and "The Newspaper" were responded to by Dr. E. W. Holmes and Talcott Williams. Among the invited guests were M. S. French, Captain Charles Lawrence, Justus C. Strowbridge, Samuel H. Ashbridge, James M. Beck, Dr. W. Murray Wildman of Reading, Dr. Hunsburger, President of the Bucks County Medical Society; Dr. Fretz, President of the Montgomery County Medical Society; Dr. Howard Kelly of Baltimore, H. G. McCormick, President of the State Examining Board, and J. P. Remington.

The second of the prizes to be awarded under the will of the late Dr. Samuel D. Gross, to be known as the Samuel D. Gross prize of the Philadelphia Academy of Surgery and consisting of $1000, will be awarded January 1, 1900. The essay must be written in the English language, must be the work of but one author, who msut be an American citizen, and must he founded upon original investigations in surgical pathology or surgical practice. The essay must not exceed 150 printed pages and must be published by the successful author in book form, a copy of which is to be presented to the Samuel D. Gross Library of the College of Physicians.

Essays may be sent to Dr. J. Ewing Mears, 1429 Walnut street any time up to January 1, 1900, and must be designated by a motto as is usual.

At the last meeting of the Pathological Society, Dr. de Schweinitz presented some interesting eye specimens. One was a spindle-cell sarcoma removed from the conjunctiva of a woman, aged twenty-eight, in whom it had grown most rapidly after child-birth. There has been no recurrence though her child has a birth-mark occupying a similar position in its eye. Dr. Wadsworth read a paper on "Indicanuria," which was discussed by Drs. Pearce, Stengel, Boardman Reed, and Hare. Dr. Wadsworth claims that its presence or absence is of clinical importance and is characteristic of functional inactivities or perversions. Discussion revealed a belief in its occurrence in intestinal putrefaction and the opinion that its value was far from being determined.

Dr. Joseph McFarland presented a specimen of complete exfoliation of the mucous membrane of the vagina which occurred in a woman aged thirty. These exfoliations

had occurred during a period of three years, but the intervals are now about five days apart. Dr. Stengel said he had seen a similar case. In Dr. McFarland's case there was no history of syphilis.

The report of the Loomis Sanitarium for Consumptives, in the Adirondack Mountains in New York, has given new impetus to a discussion which was started last year as to the advisability of establishing a similar institution in the Pocono Mountains in this State. For many reasons such a sanatorium would be a Godsend to the consumptive poor in Philadelphia, for the heavy expenses of traveling and the distance from home and friends render the Adirondacks and other health-resorts impossible to the large majority of patients who are particularly suited by their condition to climatic treatment. The healthfulness of these Pennsylvania mountains has long been known, and several reports as to the freedom of their inhabitants from pulmonary complaints have been published at different times. Climatic conditions are very similar to those existing in the Adirondacks, and as the distance from this city is only about one hundred miles, this accessibility is an advantage which counts for a great deal.

The probability of such a sanatorium being established rests largely, at present, upon the success of the efforts now being made by a physician in this city who is greatly interested in this particular work. A number of wealthy men have been approached, and some have signified their willingness to contribute various sums to aid in putting the project through. It is be hoped that the experiment will be made, for it seems to promise a great deal toward ameliorating the condition of a number of these unfortunate people, and while the Loomis-Sanitarium report is inclined to be optimistic, no one can question the good results obtained in many cases. It is only a step toward the ultimate segregation of consumptives which apparently is looming up before the minds of many advanced physicians as a necessary and inevitable step in combatting this disease.

The annual meeting of the Montgomery County Medical Society, for the purpose of electing officers, was held at Norristown, Wednesday, January 18th. Delegates to the American Medical Society and to the Pennsylvania State Medical Society and these officers were elected: President, Dr. D. H. Bergy; recording secretary, Dr. H. H. Whitcomb.

The Gloucester County Medical Society met at Woodbury on Thursday, January 19th, and after electing officers adjourned to attend the Society's annual dinner: President, Dr. Charles E. Heritage; secretary and treasurer, Dr. George E. Reading.

At a business meeting of the Philadelphia County Medical Society, held Wednesday, January 18th, the officers nominated last October were elected, Dr. Lindsay's death causing the only change in the list published in the NEWS of October 29th. Dr. Elwood R. Kirby was elected in Dr. Lindsay's place as secretary, and Dr. William S. Wray succeeded Dr. Kirby as assistant secretary.

Dr. William J. Taylor has been elected to fill the vacancy caused by the resignation of Dr. W. W. Keen as surgeon to the Orthopedic Hospital and Infirmary for Nervous Diseases, and the latter has been elected consulting surgeon.

Dr. Robert S. McCoombs, a graduate of the University of Pennsylvania, died last week of pneumonia following an attack of influenza, aged fifty years. He was prominent in church work, being a member of the City Missionary, the Historical, and the Church Extension Societies of the Methodist Church.

MEDICAL MATTERS IN CHICAGO.

CONSERVATIVE TREATMENT OF UTERINE MYOMA—APPROPRIATION FOR MEDICAL LABORATORY—OFFICERS OF CHICAGO OPHTHALMOLOGICAL SOCIETY—STATE BOARD OF HEALTH MATTERS—CHICAGO SOCIETY FOR THE PREVENTION OF TUBERCULOSIS—HYDROTHERAPEUTIC DEPARTMENT OF THE ALEXIAN BROTHERS' HOSPITAL—IMPLANTATION OF THE URETERS IN THE RECTUM—SYMPOSIUM ON THE MECHANICAL TREATMENT OF MALPOSITIONS OF THE UTERUS.

AT a meeting of the Chicago Medical Society, held January 11th, Dr. E. C. Dudley presented a paper on the treatment of uterine myoma, as illustrated by a series of cases. He offered for consideration two cases in which two tumors, both apparently springing from the uterus and each occupying the space between the folds of the right broad ligament, were removed. After reporting the cases in detail, he discussed conservative surgery in myomectomy. The removal of the myoma and the preservation of the uterus with or without utero-vaginal drainage is coming to be more and more the operation of election. Eleven years ago he reported a case of myomectomy by abdominal section and drainage from the interior of the uterus into the vagina. In this case no portion of the uterus was removed. Since this time Senn, Kelly and others have in many cases and with various modifications made use of the same principle until now the conservation of the uterus in myomectomy is not only an established, but bids fair to become a frequent, operation.

Intramural tumors, even though quite large, may often with the greatest ease be shelled out of their beds and the uterine wounds successfully closed. The tumor cavity, if not too large, may be obliterated by closure with numerous interrupted or continuous buried catgut sutures, and finally the peritoneal margins of the uterine wounds are united by a close row of rather deep Lembert sutures. During the enucleation of the tumor and the closure of the uterine wound, hemorrhage is controlled by a temporary elastic ligature around the cervix uteri. Before closing the abdominal wound this ligature is removed, and a little time is allowed to make sure that there is to be no hemorrhage from the uterine wound. Hemorrhage is usually in a great measure controlled by the uterine contraction which follows the enucleation. The mortality of this method for small tumors, in which the traumatism is slight, is surprisingly small. In case of a large tumor, and consequently of large traumatism

with enormous surfaces to be united by buried sutures, closure of the uterine wound involves too great danger of sepsis, and the technic should be modified as follows: After the tumor has been shelled out from the uterine wall, an opening is made directly from the tumor cavity to the uterine cavity. If the uterine canal is patulous, a continuous strip of gauze is carried from the tumor cavity directly through into the vagina, and the tumor cavity packed with the same continuous strip. The temporary elastic ligature around the cervix does not interfere with the introduction of the gauze. The uterine wound is then closed, as above described, by buried sutures and deep Lembert sutures of catgut. The peritoneal margins of this wound, thus turned in and united, rapidly grow together, and the whole uterine traumatism, now isolated from the peritoneum, is adequately drained through the vagina. No abdominal drain is required. If the uterine canal is not sufficiently patulous, it may be dilated or bilaterally incised or it may be both dilated and incised. The vagina is loosely filled with gauze to meet that which protrudes from the uterus; an absorbent vulvar dressing, to be changed as often as it become moist, completes the capillary drain. The gauze is removed in two or three days. Care is necessary in the closure of the uterine wound that the gauze be not caught in a suture, because then its removal would have to be postponed until after the absorption of the suture.

As shown in the two cases reported, the same principles will apply also to an intraligamentous tumor.

His own experience during several years with the above technic shows (1) almost entire freedom from mortality; (2) prompt and uneventful recovery; (3) the most gratifying permanent results. The method is undoubtedly applicable to a much larger number of tumors than is generally supposed.

Drs. William E. Quine and W. S. Christopher, representing the college of Physicians and Surgeons, appeared before the Board of Trustees of the University of Illinois January 13th, and asked for an appropriation of $50,000 for a medical laboratory at the institution. The request was granted.

At the last meeting of the Chicago Ophthalmological and Otological Society, Dr. Lyman Ware was elected President; Dr. C. D. Wescott, first vice-president, and Dr. C. P. Pinckard, secretary-treasurer.

The State Board of Health held its annual meeting January 17th. The most important business of the meeting consisted of recommendations of the Board as to legislation. Dr. J. A. Egan, the secretary of the Board, recommended the following legislation to the consideration of the Board:

First. The creation of a State Board of Medical Examiners. The bill as prepared provides for a board of seven members and a secretary, which board shall be self-supporting. The duties of the board will be the examining and licensing of physicians and midwives and the supervision of medical colleges. *Second.* The creation of a local Board of Health in every city, village, and town, and every county not under township organization. Under the present law such boards may be appointed, but no duties are prescribed by the laws of the State. *Third.* An act forbidding the interment or cremation of a body dead from any disease without a permit of the nearest health officer, and requiring all health officers to make a bi-monthly report to the State Board of such permits issued. *Fourth.* Supervision of public water-supplies and sewerage. *Fifth.* A more liberal appropriation. The appropriations in the past are held to have been entirely inadequate for the purposes for which they were made. *Sixth.* To compensate owners of cattle condemned for tuberculosis if the owner was ignorant of the existence of the disease when he purchased the stock, and fixing a severe penalty against owners who fail to report the existence of the disease among their herds. *Seventh.* A general revision of the act creating the board, as the attorney-general has given it as his opinion that the act is weak in many places and might easily become inoperative. Another matter which came before the Board was the consideration of reports of sanitary inspections made in State institutions during the last quarter.

Ignorance as to the origin and nature of consumption and other tubercular diseases is almost universal and serves as an agent for their dissemination. To combat this, to enlighten the public in general and the sufferers in particular, so that all may intelligently assist in preventing the further spread of the contagion, and thus ultimately stamp it out, will be one of the first endeavors of a new organization, which will be known probably as the Chicago Society for the Prevention of Tuberculosis. At the initial meeting Dr. A. R. Reynolds, health commissioner, presided and appointed a committee on organization, with Dr. Frank W. Reilly, assistant health commissioner, as chairman. Steps were taken at once to lay a solid and enduring foundation for the work of the society, and one of the first and most important of these was to invite individual members of the medical profession to furnish in writing their suggestions and ideas as to the scope, method, and form of the organization. Besides Dr. Reilly, the organization committee includes Drs. Fernand Henrotin, Frank Billings, Frank S. Johnson, W. A. Evans, Homer M. Thomas, John A. Robison, and N. S. Davis, Jr. No doubt is entertained that hygienic measures, such as isolation of patients, disinfection of sputa, and scrupulous cleanliness in public conveyances, must tend to reduce the number of deaths by consumption. A gratifying feature of the movement is the enthusiasm and disinterestedness of the physicians of all schools who are urging and organizing it. To what extent the plans of the society may go depends largely on the philanthropic assistance it will get in the form of contributions. Once the possibilities are made plain, for the experiment is succeeding in other parts of the world beyond expectation, the wealthy and public-spirited citizens of Chicago, it is anticipated, will support the movement handsomely. The doctors are encouraged in this belief by one individual case of magnanimity. This is the $60,000 gift of Otto Young for the Consumptive Hospital annex to the Home for Incurables.

The Alexian Brothers' Hospital has been handsomely

rebuilt, with all the equipments that hospital hygiene demands. A new department has been established during the past month, namely, for the cure of diseases by means of the rational application of water, of electricity, of massage, and Swedish movements.

At a meeting of the Chicago Gynecological Society, held January 18th, Dr. Franklin H. Martin presented specimens and post-mortem findings from three dogs in which the ureters were implanted in the rectum. Union between the ureter and intestine was technically perfect, and it will be of considerable interest to examine at some future time sections through these parts. No attempt was made in any of the cases to protect the ureters from invasion of bacteria from the bowels by any valve device in the technic. The ureters were implanted singly. The anastomosis of the ureter with the bowel was made in each case perpendicularly or at right angles to the axis of the intestine. The three dogs represented the successes in thirty-four dogs operated upon, the other thirty-one having died within one week after the operation from various causes associated with the technic. Dr. Martin has devised a new operation for implantation of the ureters in the rectum by which he hopes to prevent infection of the ureters by the colon bacilli and other bacteria from the bowel. His experiments have been undertaken with the idea of making removal of the human bladder a feasible operation.

At this meeting there was a symposium on the mechanical treatment of malpositions of the uterus. Dr. E. C. Dudley read a paper on general principles, indications and contraindications of mechanical support for uterine deviations. He said that a pessary is always contraindicated until the uterus has been replaced. Failure of replacement will cause it to press upon the sensitive uterus, and one of three unfortunate results may occur: (1) The pessary may not be tolerated on account of pain; (2) it may be forced down by pressure from above so near to the vulva that it will fail to do the least good; (3) the uterus, finding it impossible to hold its position against the pessary, instead of taking its proper position, may be bent over it in exaggerated retroflexion, with the cervix between the pessary and the pubes, or the whole organ may slip off to one side of the instrument into a malposition more serious than the one for which relief is sought.

Dr. Franklin H. Martin spoke on electricity in the mechanical treatment of malposition of the uterus, and stated that electricity in the form of the faradic or the sinusoidal current, slowly vibrated, will cause contraction of the striped and unstriped muscular fibers in the female pelvis. It is also a smart promoter of nutrition. Displacements of the uterus dependent alone on muscular relaxation or muscular non-development, if curable at all without operation, can be cured better and quicker by electricity than by any other treatment now resorted to.

Dr. William H. Rumpf discussed the use of massage in the treatment of uterine malpositions, saying that in retroflexions massage has given him personally more satisfactory results than any other form of treatment, and this pathological condition is the most important field for pelvic massage. He considers massage a valuable adjunct in the treatment of retroflexions of the uterus. He believes about fifty per cent. of the patients will be completely cured, and the rest will be well prepared for further treatment with pessaries or operations.

Dr. Thomas J. Watkins spoke on tampons and pessaries in displacements. He considers that fine, sterilized lamb's wool is the best material to use for tampons in these conditions on account of its elasticity. The value of tampons depends upon keeping the uterus as near its normal plane in the pelvis as possible, and the elasticity of the tampons elongates any adhesions that may prevent reposition of the lower segment of the uterus. Tampons, in order to be effective, should be used almost continuously, that is, soon after one tampon is removed another should be inserted. Pessaries are of especial value in some cases of simple retroposition of the uterus during the second and third months of pregnancy. Retroposition of the uterus complicated by adhesions may be treated with tampons supplementary to massage and finally relieved by a pessary. The routine use of pessaries, carelessness in studying the indications and contraindications for their use, and negligence in the proper selection of the instrument to each individual case have done much harm and cannot be too severely criticised.

OUR LONDON LETTER.

[From Our Special Correspondent.]

THE IMPORTANCE OF LORD IVEAGH'S MUNIFICENT GIFT TO THE JENNER INSTITUTE—SLACK QUARANTINE METHODS—TRIAL OF A PHYSICIAN FOR IMPROPER TREATMENT OF INVERSION OF THE UTERUS—THE LATE PROFESSOR KAUTHACK—THE "KNOCK-OUT" BLOW IN ENGLISH SCHOOLS.

LONDON, January 12, 1899.

THE press, both lay and medical, is still ringing with the praises of Lord Iveagh for his superb gift of a quarter of a million pounds sterling to the Jenner Institute of Preventive Medicine. And they do well to make much of it, for it is the first step toward remedying a great and serious lack in British medicine, which no one who is at all familiar with Continental medicine can fail to be struck with. While two-thirds of the original research work in Germany and France, such, for instance, as that of Koch and Virchow and the later part of Pasteur's, is done in laboratories equipped by and on salaries paid by the State, here similar work has to be done in the spare moments of earning an income by practice or teaching, just as in America. Indeed, the situation is even worse here. Poor Kauthack, whose splendid work makes his early death deeply regretted, not only by those who knew him personally, but by the entire profession, only as lately as five years ago, when he already had a national reputation, had to leave the laboratory and actually attempt to enter private practice in a provincial town. Only a few weeks since I was talking with a man who ten years ago was the most promising of young English pathologists, and asked him why he did not continue in research work. "There was absolutely no income to be had or hoped for from it," he said, "and I had to earn a

living." So he, too, entered practice and is now a mere successful operator and consultant. It is not too much to say that two-thirds of the original research carried on in London is done by young men who will be obliged to use it as a stepping-stone to practice. It is to be hoped that Lord Iveagh's gift may open the way to a better state of affairs.

This is the second stroke of luck recently enjoyed by the recipient of this princely donation, the Jenner Institute. Originally founded some years ago under the name of "The British Institute of Preventive Medicine," it was struggling along in the usual condition of holy poverty characteristic of purely scientific enterprises, when the managers of the fund which had been raised to perpetuate the memory of Sir William Jenner, offered to present it to the Institute if it would change its name to "The Jenner Institute of Preventive Medicine." As the fund amounted to about $110,000, the offer was was as promptly accepted as the like ever was by penniless maiden, and then before the public had got used to the new name, this other windfall descended. It seems more than probable that the first donation was one of the principal means of attracting the attention of the last benefactor to its needs.

An interesting illustration of English quarantine, or rather of the way the Britishers get along without it, has been given lately by the arrival of two vessels at the port of London, each of which had had one or more cases of bubonic plague on board during the voyage. One of them, the "Caledonia," arrived some two weeks ago, the other, the "Golconda," a few days later. Both touched at Plymouth, were there boarded and thoroughly inspected by the health officer of the port, ordered to disinfect, and permitted to proceed to London without more than a couple of hours' delay. Arrived here they were again inspected and thoroughly disinfected, one seaman on the "Golconda" with suspicious symptoms sent to an isolation hospital, and both crews detained on board for a few days, but all the passengers, after inspection, were permitted to proceed to their destinations in different parts of England. The health officer at each of the places for which they were bound was notified by telegraph and will keep them under serveillance by daily visits for some weeks. This looks like the flimsiest of protection against contagion, and yet during the nearly thirty years since quarantine was abandoned in Great Britain, with all the world's commerce which surges into her harbors, not a single epidemic of infectious disease has been introduced from without.

A case of mammary cancer with great enlargement of the axillary and clavicular glands at Mr. Jonathan Hutchinson's recent clinic, drew from the lecturer some interesting comments upon "competition" between secondary and primary deposits in malignant disease. He had seen a number of cases in which the enormous development of secondary growths in glands and elsewhere had actually seemed to impair the nutrition of the primary tumor, which accordingly diminished markedly in size and might even have disappeared. This was particularly noticeable in malignant growths of the testis. He had twice been consulted within the past few years by patients on account of large abdominal tumors which on careful examination were found to be sarcomatous enlargements of the lumbar glands secondary to sarcoma of the testis. In one patient the testicle was found almost completely atrophied while in the other it appeared at first sight to be little altered, but on examination it was found to be changed into a mass of fibrous tissue. Both patients stated that the testicle was first diseased but had "got better" about the time abdominal swelling began.

The late Baron Ferdinand de Rothschild left a legacy of $500,000 to the Evalina Hospital, which he founded nearly thirty years ago in memory of his young wife, and $5000 each to St. George's Hospital and the Brompton Hospital for Consumptives.

And still the profession is before the public in the courts. This time it is a practitioner named Nugent who really appears to have deserved it. He is accused of causing the death of a woman by failure to recognize and correct that rare accident, inversion of the uterus. The inversion and his failure to recognize it seem to be practically proved by the unwilling testimony of the physician whom he called to his assistance, but how far this neglect was the cause of death seems doubtful. A curious feature of the case is that the doctor's name does not seem to be Nugent but Roland, "Nugent" being the name of a deceased physician at Dulwich to whom Roland was an assistant and whose name and place on the register of practitioners he seems to have assumed. Even in model England there appear to be ways of evading the Medical Practice Act.

The career of Professor Kauthack, whose untimely death from cancer of the liver at the age of 35 was noted last week, was a remarkably brilliant one. Born in Brazil of Spanish parents he came early to England and was educated at Liverpool Medical College. When only twenty-six he contributed an article to *Virchow's Archives* on the "Histology of the Larynx" that attracted wide attention. At twenty-seven he was appointed a member of the Leprosy Commission and spent two years in India, and on his return was elected Walker Research Scholar at Cambridge. At the end of his term in 1892, he went to Liverpool to enter practice, but was soon recalled to London as Director of the Pathological Laboratory at St. Bartholomew's Hospital, which position he held until his appointment as Professor of Pathology at Cambridge only a year before his death. His best known work was his investigations of leprosy, his study of the tsetse-fly disease, and a report upon tuberculosis in milk. In the barely ten years of his professional career he had achieved a remarkable reputation, both as an investigator and a teacher.

The vagaries of latter-day athletics in schools is truly remarkable. We have this week had the edifying spectacle of the Association of Head Masters, representing the leading schools of England, finding it necessary to publicly protest against the "knock-out blow" being taught in school gymnasia! The stroke in question is not a shoulder hit, but one delivered from the side,

technically called a "jab" or "hook," and neatly landed upon the point of the chin with the gentle anatomical aim of driving one condyle of the jaw against the base of the skull with sufficient force and suddenness to produce a mild concussion of the brain and temporary unconsciousness. Its object is, in the language of the ring, to "put a man to sleep" long enough for him to be counted out. So little force is required to make it effective that one of the distressed head-masters told of a fourteen-year-old boy, boxing with a professional instructor in a school gymnasium, who took it into his head to try this blow, with the result that the pugilist fell as if he had been shot, and remained unconscious for several seconds. And this delicate and harmless maneuver is being taught to school boys. It is time somebody protested in all conscience.

A few weeks ago a number of street-cleaners at Birmingham had their wrists and ankles badly burned by chlorid of zinc with which their cleaning suits had been treated in process of manufacture. Now it is reported that certain brands of flannelette are heavily charged with the same salt and for a curious reason. It seems that in their "natural" condition these cloths are extremely inflammable and, like celluloid, will blaze up if brought near a flame. Consequently the makers cast about for some salt which was so highly hygroscopic, that the goods would always be kept slightly damp. Of all other good and harmless things they hit upon chlorid of zinc, and one sample just examined was found to contain no less than 23 per cent. of the salt, and 8 per cent. of water. The analyst, therefore, naively advises purchasers to "avoid flannels having any feeling of dampness." We should think so. We have all heard much of the dangers of damp flannels, but this is a new variety.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

DIFFERENT METHODS OF CURE OF AN IMMOVABLE MAXILLA—CALOT'S FORCED-REDUCTION METHOD—STENOSIS OF THE ESOPHAGUS FOLLOWING SCARLATINA—LORENZ DEFENDS HIS OPERATION—RELATIONS OF OBLITERATING ENDARTERITIS TO SPONTANEOUS GANGRENE—VALUE OF THE DIAZO-REACTION IN TYPHOID FEVER.

AT the Berlin Medical Society, November 30th, KAREWSKI spoke of the different methods of cure of an immovable under jaw. The lesion can be due either to destruction of the joint or to loss of the soft parts and their replacement by fibrous tissue. The latter condition is a difficult one to remedy; still plastic operations upon the cheek have not been without effect, when there was no osteoperiostitis present. For relief of ankylosis a number of operations have been planned. Esmarch suggested the establishment of a false joint; others have proposed to separate the bones and introduce some soft tissues between the ends, but the results have been indifferent. The best method seems to be to remove a considerable portion of the bone, combining this with a plastic operation on the cheek. This plan had been followed in the case of a woman who, ten years before, had inflammation of the brain followed by an abscess in the cheek. There resulted a broad bony plate which connected the left superior maxilla with the under jaw, and also a large scar in the soft parts. The bone was freely cut away and the defects in the soft parts replaced by a flap from the neck. The result was excellent, the patient being able to open the mouth a distance of 4 cm. (2.5 in.).

At the Free Union of Surgeons of Berlin, December 12th, CALOT gave an exhibition of his method of forcible reduction by applying it to two patients. The first case was that of a child, three years of age, who had had spondylitis for three months. Under an anesthetic the child was suspended and during manual extension of the feet Calot was able by slight manipulation to accomplish a complete reduction of the deformity. A large plaster-of-Paris bandage was put on, covering the body and the neck well up to the head. The time of the whole procedure was only fifteen minutes. The child could stand as soon as it recovered consciousness. The second case was one of eighteen-months' duration with marked deformity. This child had been subjected to a great deal of treatment. Under an anesthetic an incision was made over the prominent vertebræ, and the upper part of the sunken spinous process was removed. The periosteum and soft parts were loosened on both sides. The wound was closed by catgut sutures. The child was then stretched upon the table and the deformity was reduced without the application of much force being necessary. Suspension and a plaster-jacket completed the treatment. The time occupied was scarcely more than fifteen minutes. The preliminary operation had the threefold advantage of facilitating the reduction of the deformity, avoiding pressure necrosis of the skin, and of providing a strong support in the way of new bone to be formed, as the operator hoped, in one piece, from the ripped-up periosteum. The after treatment of such patients extends over at least a year and a half. Calot will not receive into his hospital for treatment any children whose parents will not agree to leave them with him for years if need be. The plaster jackets are changed about once in two months.

In Stettin, November 8th, EHRLICH showed a second case of stenosis of the esophagus following scarlatina. A man, aged thirty-two years, had scarlet fever at the age of eighteen months, followed by difficulty in swallowing. The difficulty increased very much during the last few years and especially during the last months, so that he finally became unable to swallow even fluids. After food had been washed out of the esophagus Ehrlich could make out, by means of the esophagoscope, a stricture 32 cm. from the teeth, having a three-cornered opening about 3 mm. across. A stick of laminaria was passed into it and in the course of ten days it was stretched to admit a sound of 10 mm. diameter. The esophagoscope can be readily passed without the introduction, into the mouth, of the finger, if the patient's head is kept flexed until the instrument touches the posterior wall, and the head is then fully extended. In this simple manner the point of the instrument is lifted over the prominent seventh cervical vertebra. Apparently scarlet fever occasions

stricture of the esophagus by no means so rarely as has been supposed. Doubtless many of the so-called idiopathic or congenital strictures are due to it.

At the Imperio-Royal Society of Physicians of Vienna, November 25th, LORENZ defended his method of the bloodless reduction of congenital dislocation of the hip against attacks which have been made upon it by French surgeons. Lorenz's method consists in bringing the head of the femur into the rudimentary acetabulum by means of tension and extreme abduction of the thigh, and of keeping it there from six to nine months, until the head of the bone by means of muscular pressure, and later by motion, shall grind out for itself a good acetabulum. It matters little whether the head of the bone is brought into the exact spot of the rudimentary acetabulum as long as it is on the anterior wall and covered by a rim of bone which will keep it in place. The results were splendid. Where a double lesion had existed the pendulous abdomen, the broad buttocks, and the waddling gait disappeared almost at once so that the form of the whole body was altered. As the best answer to critics Lorenz showed the photographs of a great many patients before and after they had been treated in the manner described, as well as radiographs and several patients themselves. The proofs of the correctness of his method were overwhelming.

STERNBERG read a paper on the relations of obliterating endarteritis to spontaneous gangrene. Without apparent cause there develop in the lower extremities of young, strong persons symmetrical pains, paresthesia and weakness. Later the gangrene begins at the periphery in the form of a blister and proceeds thence toward the center. Only exceptionally are the upper extremities affected. The veins usually remain normal, but the arteries show reduction of their lumens in places, due to an irregular growth inward of the intima. The muscular and outer coats of the vessels are unaffected. This obliteration of the lumen is not due to the organization of a thrombus, but consists in the growth of the intima itself and hence the names, endarteritis proliferans, hyperplastica, and obliterans. A similar, though physiologic, growth of intima is seen in the closure of the umbilical vessels and in the disappearance of the uterine and ovarian arteries. Thoma has explained this growth of the intima as due to a varying pressure caused by the diverting of the blood-stream through other channels. This theory satisfies the conditions found in the umbilical and uterine arteries, but when it is applied to the occurrence of pathologic growth of intima it is less satisfactory. It may pass for the occurrence of such a process in the neighborhood of tumors and inflammations, but it does not answer for simple cases of endarteritis, where there certainly is no dilatation of the arteries, though hypertrophy of the media might cause contraction.

At the Vienna Medical Club, November 30th, WOLF spoke of the value of the diazo reaction in typhoid fever. Ehrlich has stated that the reaction is of value only if a greenish precipitate accompanies the red color. Others have disputed this and Wolf shares their opinion. Analysis of the precipitate showed him that it was composed of triple phosphate and ammonium urate, and had nothing to do with the diazo reaction. The value of the reaction rests less in diagnosis than in prognosis. Thus it may also be present in miliary tuberculosis. If it is absent the conclusion may safely be drawn that the disease is either not typhoid fever, or if so that it is of a very light character.

At the session of December 7th, EWALD read a paper on the indications for the operative treatment of biliary calculus, a translation of which follows.

SELECTED ARTICLE.

INDICATIONS FOR THE OPERATIVE TREATMENT OF BILIARY CALCULUS.[1]

[Translated Especially for the MEDICAL NEWS.]

THE indications for the operative treatment of biliary calculus become of importance as soon as it is evident that a spontaneous cure is not to be anticipated, and that complications will follow which are either disabling or dangerous to life.

We must first consider the question of a spontaneous cure, including under that term medical treatment, especially that received at Carlsbad. Is there such a thing as spontaneous recovery? Every one of you will promptly answer "Yes," if by "recovery" is understood, merely the passage of the stone. You will answer with some hesitation if I insist that I mean by "recovery" the passage of all the stones; and your reply will come with still more hesitation, if "recovery" is understood to mean the cure of all the complications. I would like to make it plain at the outset, that a spontaneous recovery from biliary calculus is very seldom to be looked for, since an interval of freedom from pain, lasting for several years, is by no means the same thing as a definite cure; while the various complications, stricture, atresia of the passage and carcinoma may produce their evil effects years afterward, in spite of anything which we can do to prevent it.

Let us consider when a particular attack (and by that I mean not merely the attack of colic but also the passage of the stone and all the complications which follow) indicates that the physician should call on the surgeon for help. How can one determine whether a spontaneous passage of the stone is to be awaited, and how long shall it be waited for, and how can it be known when it has occurred?

If it is the first attack, there is nothing to go by, to prove that the stone will or will not be passed, and so we must wait and see. The answer to the first question, therefore, lies in the second. If it is not the first attack, it is of vital importance to know how previous attacks terminated, for from them we can draw conclusions as to the probable outcome of the attack before us. Here the answer to the first question lies in the third. We shall then answer that first.

The hoped-for termination of an attack, that is the

[1] An address delivered before the Vienna Medical Club, December 7, 1898, by Karl Ewald, M.D., Privat-docent for Surgery in Vienna. From the *Klinische Therapeutische Wochenschrift.*

passage of the stone, can only be proved by finding the stone in the stools. Suspension of the pain is in no wise a proof of the passage of the stone. No more is the disappearance of jaundice and the reappearance of bile in the stools. The finding of the stone in the feces is, however, largely a matter of chance, since it does not pass immediately after the cessation of pain. Sometimes it is dissolved or rubbed to pieces in the intestine, or it may, while maintaining its integrity, lodge in some pouch of the intestine, and be kept from appearing in the stools. The examination of all the stools is a tedious process, and only occasionally is a patient so situated that it can be done with requisite thoroughness. Yet only when the physician has the stone in his hand can he assert positively that his patient has had gall-stone colic, or that the stone has passed. Even then it cannot be said whether it passed through the common duct, or not. It is only fair to acknowledge all these difficulties, but in spite of them the examination of the stools may give the most valuable information and is greatly to be recommended.

Are there any other ways by which one can determine with even a reasonable degree of accuracy that a stone has passed the common duct? I must admit that there are none. If you rely on the repeated and typical terminations of attacks, you will be grossly deceived. I once operated upon a young woman who had had numerous typical attacks of one or many days' duration, and who sought operative relief on account of the frequency of these attacks, and the pain, which made her practically an invalid. We expected to find many small stones. Instead there was one smooth, round stone in the gall-bladder, which alone had caused all the attacks.

When a large stone is found in the stools, the question is raised whether it has passed by the common duct, or has ulcerated through into the intestine from the gall-bladder or some other part of the biliary tract. This cannot be determined from the size of the stone. I have seen a stone as big as a hen's egg lying in the common duct, and have known one scarcely smaller, to pass into the duodenum. Of course this is only possible when the passages have been dilated by numerous attempts of smaller stones to get through. If such previous dilatation has not taken place, a stone larger than a bean cannot get through in a short time.

And now to come to the second most important question, how long can we wait? The "we" in this question includes both physician and patient. If severe complications are already present, such as suppurative cholectitis, or cholangioitis, carcinoma of the gall-bladder, or atresia of the common or of the hepatic duct, the indications for surgical measures are clear enough. Indeed then it may be too late.

But in the lighter cases when these dangerous complications have not set in, the question should often be left to the patient to decide. It is not so much the immediate danger to life that makes an operation advisable, as it is the continued inflammation which will make it impossible for him to attend to his duties, or the repeated pain which takes away his pleasure in life, or the weakness that will follow the long disturbance of digestion.

It is worth while to refer here to the action of Carlsbad salts, about which opinions differ. Nobody claims that they will cure all cases without danger of complications. It may be admitted that they facilitate the passage of stones, but that they make such passages absolutely painless is not claimed by any one. Many experienced physicians dispute that a stone is passed any more quickly on account of their use. We may reject the idea that has been advanced that the use of Carlsbad water increases the flow of bile and that the stone is pressed out into the duodenum as a result. Were this the case almost all of the patients at Carlsbad would be jaundiced, whereas the reverse is true. Naunyn's experiments upon animals have shown that the Carlsbad sprudel salts have not nearly so powerful an action on the flow of the bile as a full meal. And the closure of the biliary passages by a stone, at least for any considerable time, is not so perfect that it is possible to establish any considerable pressure behind it. At the operations for gall-stones which I have performed when the stone was in the common duct, it has always been sufficiently loose to be easily pushed back and forth unless cicatricial tissue prevented.

The pain of a gall-stone as well as the jaundice is pretty generally recognized to be due to inflammation of the biliary passages; and it is now generally admitted that this inflammation is of infectious origin. The inflammation is usually of a mild character with serous exudation and limited fever of short duration. The danger of infection of the peritoneum by operation is therefore slight. This inflammation is favorably affected by the treatment at Carlsbad just as it is by warm, moist compresses. The Carlsbad waters are good symptomatic treatment therefore, but they do not reach the cause of the trouble and are incapable of affecting the more serious complications—stricture, carcinoma, cholangioitis.

In light cases with symptoms only of pain and gastric disturbances two possibilities are open to the patient: operation, which has as drawbacks, two weeks in bed, a biliary fistula of three- to six-weeks' duration, and an abdominal scar; or moist compresses with Carlsbad water internally, with more or less morphin, a treatment of uncertain duration which rarely cures the patient, but which may for a shorter or longer period lessen or remove altogether the disabilities from which he suffers. In the early stages of the trouble the danger from operation may fairly be said to be less than that from medical treatment since it obviates the possibility of subsequent complications, chief among them being carcinoma.

There is a possibility that a stone may be left after an operation, but the same possibility exists after medical treatment in a much higher degree. The more carefully the operation is performed, and the larger the stone, the less likely is this to happen. A recurrence after operation has never been absolutely proved, but it is, of course, not impossible. Even so it would not necessarily be the fault of the operation.

Under these circumstances it is evident that the man or woman who loves an energetic active life, or who is obliged to earn a living for a family, will not be as will-

ing to experiment with a Carlsbad cure, as the person financially better situated who is content to live there in comparative comfort until hard necessity in the form of cholangioitis or carcinoma compels a more radical treatment.

The commonest complication of biliary calculus is icterus. Can this make an operation necessary? It may continue for years, yes for thirty years, without threatening life. On the other hand, cholemia may set in in a short time. According to my opinion icterus alone is not an indication for operation unless it has continued for two or three months continuously.

Another complication almost equally common is fever. It is of far graver importance than icterus. If it is moderate and exists for only a short time, and without peritonitic signs or swelling of the liver, it may be disregarded. The oftener the attacks come and the longer they stay the more seriously must operation be considered, for the picture of a fatal cholangioitis grows plainer and plainer.

The mechanical obstructions which may develop in the course of the disease may be either relative, that is to say, stricture, or absolute atresia. They may arise in the biliary passages or in the duodenum or colon. If atresia arises in the cystic duct, a relatively common location, hydrops of the gall-bladder may develop, a condition which is with difficulty told from a stone in the cystic duct. Whether operation is necessary will depend on the symptoms. Atresia in the course of the hepatic or common duct is an absolute indication for operation, but it can hardly be told from a stone. Stricture of the intestine is readily recognizable and when well marked is an absolute indication for operation. Perforation of the gall-bladder may never be left to heal of itself as such an outcome is unknown.

Inflammatory complications may be limited or diffuse and serous and purulent. The former are naturally less serious than the latter. Of the more grave inflammations empyema of the gall-bladder and purulent cholangioitis with abscess of the liver are not infrequent. The more virulent the infection the greater the necessity of operation and the more dangerous the operation at the same time. The danger consists in infection of the peritoneum by overflow of bile.

Finally carcinoma must be mentioned, but upon this subject surgery has little more to say than medicine.

Adhesions between the gall-bladder or other portion of the biliary tract and the stomach may cause such pain and gastric disturbances as to threaten life from marasmus. In such conditions surgical measures will often bring about a quick and certain cure.

Removal of Foreign Bodies from under the Nail.—This is rendered easy and comparatively painless by the following procedure: apply a 10-per-cent. solution of caustic potash to the nail directly over the foreign body, using a match as a convenient applicator. Scratch the softened nail with a piece of glass, and repeat the whole process until the offending object is reached, when it can readily be lifted up and removed.

SOCIETY PROCEEDINGS.

NORTHWESTERN MEDICAL AND SURGICAL SOCIETY OF NEW YORK.

Stated Meeting, Held November 16, 1898.

THE Vice-President, WILLIAM STEVENS, M.D., in the Chair.

DISLOCATION OF THE HEAD OF THE HUMERUS.

DR. JOHN F. ERDMANN: The man from whom this specimen was removed gave the following history: He is German by birth, a sailor by occupation, and in mid-adult life. Six weeks before I saw him he was struck by a large wave and received a dislocation of the left shoulder. There was no medical man on board the vessel and no attempts were made at reduction. When he came to me a large mass was seen in front of the clavicle at its mid-portion, and there was what might be called a pre- and supraclavicular dislocation of the head of the humerus. I made all kinds of attempts at reduction under ether-narcosis, but although it was freely movable, I could not reduce the head of the bone into the glenoid fossa. I, therefore, cut down upon it and found it lying between the pectoralis major and the pectoralis minor. It was entirely without muscular or ligamentous covering, being absolutely denuded even of periosteum for a distance of 3½ inches; the deltoid was the only structure which was attached to it. The capsule had evidently been ruptured behind and below and the head wrenched outward and forward and then displaced up in front of the collar-bone. I was only able to replace the bone after cutting off the head. The wound, which was closed without drainage, healed by first intention although the patient suffered from a left lobar pneumonia. On the seventeenth day after the operation the man was able to lift his arm twenty degrees from the side of the body, and I have no doubt that he will eventually have excellent motion.

APPENDICITIS.

DR. ROBERT MILBANK: This appendix was recently removed by Dr. Lewis A. Stimson from a girl sixteen years of age who had had a number of slight attacks of appendicitis during the past eighteen months. With the exception of the last, these attacks were not severe enough to confine her to bed. She then complained of a great deal of pain and was obliged to remain in bed for several days. Her pulse was never above 80 and there was no rise of temperature. The appendix was found to be pulpy but was empty. There were, however, eight or ten hemorrhagic spots in the internal coat, some of which extended nearly through to the external surface. The patient made a good recovery.

EPIDEMIC DYSENTERY.

DR. S. H. DESSAU: I wish to report a case of dysentery of an epidemic type occurring in a child eight years of age. I have seen four similar cases this fall in the same part of town. It is a question whether or not the return of the troops from Cuba is responsible for the appearance of the disease. I successfully treated the child

with rectal injections of decinormal salt solution at a temperature of 105° to 110° F., two quarts of the solution being used each time. Six injections in all were given. Kemp's metal tube was employed. This is not so long as the rubber rectal tube, but by elevating the child's pelvis the solution was made to enter the bowel to a considerable height. The injections were followed by great relief, and the child was well at the end of eight days. This treatment has been recommended for subacute cases, but I have never heard of it being employed in acute cases. In looking up the literature I find that in a recent number of the *British Medical Journal*, Dr. Sandwith of Cairo, Egypt, recommends injections of hot water containing sulphate of copper, 15 grains to the pint, in acute cases of dysentery.

FRACTURE OF THE NECK OF THE FEMUR.

DR. H. L. TAYLOR: I recently saw a man at the hospital who stated that four months previously he had fallen down a hatchway of a vessel and injured his foot. He was immediately taken to one of the large city hospitals where the foot injury was treated. No examination of the hip was made and the patient was told to get up on the following day. The man now walks badly with a crutch and a cane and complains of pain in the hip. Upon examination I discovered that the left leg was three-quarters of an inch shorter than the right, the trochanter was elevated, there was considerable limitation of motion at the hip-joint, and crepitus was present; in other words, there was an ununited fracture of the neck of the femur. The fact that this condition was unrecognized while he was in the hospital shows the necessity for a thorough examination of all the joints after a severe fall.

LIGATION OF THE SUBCLAVIAN ARTERY.

DR. ERDMANN: Last week I ligated the subclavian artery in its third portion for aneurismal varix. The patient was a boy aged twenty years, a contortionist, who had been shot on the 18th of August last. The ball entered under the left clavicle, took an upward and outward course, and was removed from the supraspinous fossa. When he came to me he had a most beautiful murmur of the bee-buzzing type which could be heard all over the chest, left and right, posteriorly and anteriorly. Palpation failed to show the presence of a tumor. I cut down and exposed the entire third portion of the subclavian, ligating it at the outer part of the scalenus anticus and also at its axillary extremity. The communication was obliterated by ligating the vein laterally. During the operation I sawed through the inner two-fourths of the clavicle to allow of free dissection of the cicatricial tissue in the track of the bullet.

DR. J. RIDDLE GOFFE then read the paper of the evening, entitled

HYSTERECTOMY IN PUERPERAL SEPSIS, WITH REPORT OF A CASE.

(See page 103.)

DISCUSSION.

DR. W. GILL WYLIE: The subject is a most interesting one and is well covered by the paper. In many respects I agree with the author, while in others I differ from him. I will not touch upon the pathology of the subject, for I have made no personal investigation in this direction, but I will speak of my work in these cases. I have arrived at some fairly definite conclusions in the matter. For instance, I look upon a chill and fever in the parturient woman as puerperal fever, and treat the case as such unless it is very evident that the chill and rise of temperature are due to some other cause. I also believe that in nine cases out of ten the chill and fever are due to infection of the uterine cavity. In my experience I have found that this infection is usually superficial and mild; but it may become serious and in some cases fatal. I am of the opinion that many of the cases of what we call pyosalpinx are the result of sepsis after labor or abortion.

When I am called to see a parturient woman who has had a chill and rise of temperature I immediately explore the vagina and uterus and remove any material which should be removed. I am very careful in curetting these puerperal patients, especially if the sepsis is of eight or ten-days' standing, for it is very easy to puncture the uterine wall with the instrument. I generally use my finger or the dull curette. I then wash out the uterine cavity with a 1 to 100 or 1 to 60 solution of carbolic acid every hour for six consecutive hours. If the temperature does not fall within six hours I know that the septic poison has entered the uterine sinuses and reached the peritoneum and that peritonitis has begun. If it enters the veins and lymphatics and appears in the form of phlebitis, I simply watch it, for it is not necessarily fatal. If there is a center of pus formation at any point, in the pelvis or elsewhere, I open it and wash it out. But if the temperature falls after the uterine douche I know that the infection is a mild one and that the patient will soon be well. It is in the former class of cases that hysterectomy, performed before the septic peritonitis has fatally poisoned the patient, is indicated and these patients can be cured in no other way. If operation is delayed the woman dies because hysterectomy does no good when the surrounding tissues are involved. It is very difficult, however, to determine when septic peritonitis has begun. Last spring I saw a case of puerperal sepsis in which there was a laceration of the uterus which extended up into the broad ligament and peritoneum. I had been called in to do a hysterectomy as a last resort for the patient was thought to be dying of septic peritonitis. She had been curetted and her temperature had fallen some but had risen again. It was then 105° or 106° F., the pulse rapid, and the abdomen distended, but she did not present what I consider signs of a fatal peritonitis. I persuaded them to let me wash out the uterus. Her temperature came down and I cured the patient. I could narrate a number of such cases. The most important point in the treatment of these patients is to determine when septic peritonitis is beginning. Probably nineteen out of every twenty cases of puerperal sepsis are curable. We do not often see in the uterus the same kind of sepsis that we see in the appendix. In the latter the lack of drainage affords opportunity for a form of sepsis which is very virulent.

DR. ROBERT MILBANK: The paper is of unusual interest. In spite of its startling attractiveness it is to be hoped, however, that puerperal sepsis will not be allowed to reach the point at which operation is necessary. There are some cases in which hysterectomy offers the only chance of recovery, but these are the ones which have been allowed to go too far.

DR. A. M. JACOBUS: I have never had a case of puerperal sepsis in which hysterectomy was necessary and, therefore, cannot speak from personal experience on the question of the propriety of the operation in such cases. The case reported by the author is very interesting, but I have heard others report similar cases and the result is usually the same—the patient died, probably because of general infection and because operation was delayed too long.

The paper is so excellent that it cannot be criticised except in one particular. The author states that when a parturient patient has a chill and rise of temperature, he does not pay any attention to the common belief that either malaria, milk fever, etc., is the cause, but ascribes it to puerperal sepsis and curettes the uterus at once. I think this is wrong. I have seen many cases in which there was a chill, followed by fever, which were not due to any trouble in the uterus. I am quite sure that the author would not curette a uterus if it were not necessary but there are men of less experience than he who, on his dicta, will curette in every case after reading his paper. In many cases the engorged or inflamed breasts are responsible for the chill and fever. For example, I recall the case of a woman who was delivered of a dead child at the eighth month, everything coming away nicely. She had a chill on the third day after labor and this was solely due to the engorged condition of the breasts. There was a free supply of milk and the mammary bandage which had been applied had become loose. The fever was reduced by the administration of a dose of antipyrin and by massage of the breasts and the reapplication of the bandage. The woman recovered promptly without the uterus being curetted for any possible sepsis. In another case, in which there was a chill and rise of temperature on the third day after labor, I learned that the breasts had been left wet and exposed after nursing in a very cold room, with the result that a mastitis developed. No uterine sepsis existed. While I do not believe in milk fever as such, I do believe that often the chill in parturient women is due to congestion or inflammation of the breasts resulting from obstructed milk-ducts, sore nipples, incomplete nursing, etc.

Quite frequently there is some complication in the lungs, kidneys, or other organs, as well as attacks of malarial, eruptive, or other fevers, which cause chills and fever in puerperal women, and these possibilities should be thought of and excluded before jumping to the conclusion that sepsis has developed and that the uterus must be curetted at once. If the breasts are found in good condition and all other complications can be excluded, it is of course proper to look to the uterus and pelvic organs for the cause of the trouble. If the condition of the patient goes from bad to worse it may be best to remove the uterus, but I think that by making a posterior vaginal incision in order to drain the pelvis, and by removing the tubes and ovaries if they be septic, the uterus can generally be saved.

To illustrate the mistakes which are sometimes made by hasty treatment of the uterus, I would cite a case seen in consultation last winter. The woman had been prematurely delivered at the fifth month and I learned that the breasts had filled up and caused her much distress. On the third or fourth day she had a chill and her temperature went up, all due, as I believe, to the mammary condition. Her physician, although admitting that he was positive the uterus had been completely emptied, thought the woman was septic and douched the uterus with a 1 to 2000 solution of bichlorid of mercury two or three times a day, but paid no attention to the breasts. As the patient became worse he curetted and swabbed out the uterus with a fifty-per-cent. solution of chlorid of zinc, and continued the mercurial douches. As no improvement followed this operation, he repeated the zinc application. The result was that a general and local poisoning was set up and a so-called diphtheritic condition developed which nearly cost the patient her life on the seventh day after delivery. I persuaded him that the original chill and rise of temperature were probably due to the condition of the breasts and not to sepsis and that his very active uterine treatment had undoubtedly been the cause of the extremely critical condition of the patient. The woman was then given simple boric-acid vaginal douches morning and evening, followed by applications of bismuth to the eroded and swollen cervix uteri and vagina, the still distended and painful mammary glands were bandaged, and she recovered promptly.

DR. N. S. LEO: I agree with the last speaker in regard to his statement that the cause of fever in parturient patients is often to be found in the mammary glands. It should be borne in mind also that fever is sometimes due to a neurotic element. I think Dr. Wylie will recall a case which he saw with me in which the temperature ran up as high as 105° F. He advised washing out the uterus, and this was done for days and nights with the result that the woman's life was saved.

DR. J. BLAKE WHITE: It seems to me there is one point of diagnostic importance which should not be neglected in the discussion, namely, scanty if not actual suppression of the lochia as an indication of threatened sepsis. If such a condition occurs within three or more days after labor the danger of sepsis should not be overlooked. In such an emergency recourse must be had to intrauterine as well as vaginal douching with warm, mild carbolized solution, repeated at reasonably frequent intervals. This will often avert septic absorption and, in addition, lessen the probability of surgical interference being necessary. The radical measures described are but seldom required, comparatively speaking, and as shown by the author, rarely prove successful although the greatest skill be exercised because of the extension of the disease far beyond the local focus of its origin.

DR. R. A. MURRAY. As a rule operative interference in these cases is only successful when the disease is local.

If there is streptococcic infection more harm than good results from operation. Differentiation in diagnosis is a most important point. I am one of those who believe that after mammary and other sources of fever are excluded, the vulva, vagina, and uterus should be explored. In epidemics of puerperal fever which I have seen in hospitals the germs seemed to gain entrance through lacerations, and in many cases a diphtheritic membrane formed upon these raw surfaces. Removal of the uterus in such a case would be useless. In order to determine whether there is sepsis in the uterus, the finger should be passed into the cavity. If the os is patulous, the lining membrane rough, and a necrotic odor clings to the examining finger, the uterus should be curetted and douched clean. If then the patient's temperature does not subside, hysterectomy may be performed, but treatment at an early stage will do more good than operation will later.

DR. J. H. FRUITNIGHT: It should not be forgotten that there are two forms of septic infection, the sapremic and streptococcic. In the former the disease is generally the result of local infection from retained placental tissue or other *débris*, and under proper treatment the patients usually recover. If treated early by curettage and irrigation all these patients should get well, and it is in the early stage of this infection that the condition should be recognized. Streptococcic infection is always produced by contamination from without, and the practical conclusion is that one should not meddle with puerperal cases lest infection be introduced. A very glaring example of this is shown in a case which occurred in my practice. The patient had been delivered before my arrival and shortly afterward the placenta was expelled. Within twelve hours she had a chill and high temperature and died of puerperal fever in three days. I learned that prior to my arrival the nurse, who had recently attended patients with puerperal fever, had made several vaginal examinations and thus infected the patient. Operation would have done no good in this instance for the infection was not local but systemic. Extirpation of the uterus should be practised, if at all, before infection has advanced too far. Streptococcic cases are apt to terminate fatally.

DR. MURRAY: I believe Dr. Goffe was careful to say that the uterus should be examined before it is curetted. The term "meddlesome midwifery" is a bugbear in medicine, and what does it really mean? To some men I suppose it is "meddlesome midwifery" to examine a woman before delivery. In Dr. Fruitnight's case the mistake was to allow the nurse to examine the patient. It is absurd to say that the obstetrician should not examine a parturient woman. If his hands are clean enough to be put in the abdominal cavity, they certainly are clean enough to examine the uterine cavity. Ninety-nine times out of a hundred a chill after labor is due to the uterus; abscess of the breast is rare.

DR. GOFFE, in closing: I am glad that Dr. Wylie has been here to-night to give us the benefit of his experience with this disease. When I first left the Woman's Hospital it fell to my lot to see a great many of these cases and they made a deep impression upon me. Washing out the uterus was then extensively employed and many of the patients with mild attacks recovered under this treatment. I noticed that the serious and fatal cases were those which were neglected in the beginning, the attending physician having attributed the chill and fever to milk-fever or malaria. I decided then and there that the only safe way to treat these patients was to make a thorough examination of the genital tract and attack the disease in the uterus early. Of course it is understood that as a routine practice the mammary glands as well as the heart, lungs, and kidneys are first examined in every case. My effort has been to bring out in a decided manner the great fallacy with which so many practitioners quiet their apprehensions that milk-fever or malaria are to be generally credited with the rise of temperature in puerperal cases.

In regard to recovery after pyemia, I recall a case in which I confined a woman in the back room of a second-hand furniture store on Third avenue. The patient became septic and I curetted the uterus thoroughly, washed out and drained, but found it necessary to repeat the operation. Pyemic abscesses later developed in various parts of the body. I opened as many as five of these accumulations. Her system was thoroughly impregnated with pus, but she finally recovered.

It is true that probably a majority of these patients will get well if nothing is done because the infection in most of them is saprophytic. Dr. Wylie does not hesitate to say that he can cure nineteen out of every twenty of these patients by uterine irrigation if seen early. This is about the proportion of saprophytic to streptococcic cases of infection. I am inclined to think that when streptococcic infection is present the result is generally fatal. Dr. Fry of Washington who has made a careful study of forty-seven cases has found that streptococci were present in the lochia in but one instance. Dr. Williams of Baltimore also made investigations in this direction, and finds a larger proportion in which streptococci are not present, as do also some German investigators. I think the ratio will be found to be about one in thirty-five or forty.

In puerperal sepsis I believe in taking the disease in hand early, and I have never seen any bad results follow exploration of the uterus with the curette. In cases in which the disease progresses very rapidly, the infection is probably streptococcic and operation will do no good. The cases in which operation should be performed are those in which the disease is localized, in other words, not streptococcic. In the latter form of infection nothing can be done but to stimulate the patient. If Nature can form a wall to resist the invasion, the patient recovers. Fortunately, the great majority of these cases of puerperal sepsis are of the milder type and the patient will recover if she is given a fair chance; the chances are made better by curettage and douching of the uterus.

For Acute Tonsillitis in Children.—

℞	Tinct aconiti	*m.* viii
	Lig. ammonii citratis . . .	ʒ ii
	Syr. aurantii	ʒ iss
	Aq. dest. . . q. s. ad	℥ ii.

M. Sig. Two teaspoonfuls every three hours for a child of five years.—*Ashby.*

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ORIGINAL ARTICLES.

THE TREATMENT OF HEADACHE.

BY JOSEPH COLLINS, M.D.,
OF NEW YORK;
PROFESSOR OF NERVOUS AND MENTAL DISEASES IN THE POST-GRADUATE MEDICAL SCHOOL; VISITING PHYSICIAN TO THE CITY HOSPITAL.

THERE is no symptom or disease whose cause demands more careful investigation that its relief may be encompassed than headache, and before we can speak legitimately of its treatment we must enter with some detail into its mode of occurrence, causation, and pathogenesis.

The term headache is an extremely comprehensive one. It may be applied properly to any form of pain in the head. To do so, however, is to confound unnecessarily manifestations of disease with individual disease. A radical and extremely important classification of headache is as follows: (1) Migraine: an individual disease like epilepsy; a neurosis of a degenerative type. (2) Neuralgia: including tic-douloureux, supra-orbital, occipital, and nuchal neuralgia. (3) Symptomatic headache: an indication of functional or organic disease, traumatic, accidental, or inherent. (4) Idiopathic headache: a rare form of cephalalgia which has no determinable association with organic or functional disease. Here only the third and fourth varieties are considered, as the first and second are properly considered under separate captions.

Headaches have been variously classified by different writers. Some believe that they are most safely interpreted when given topographical classification. Others contend that the character of the pain is the most reliable distinguishing feature, but the majority find it most satisfactory to classify headaches according to their causes and disease associations. Almost any form of classification may be made to serve a useful purpose. In my lectures I oftentimes refer to: (1) Headaches of early life, embracing the years up to puberty; (2) headaches of the adult; and (3) headaches of the senilium. Such a division has many advantages. It impresses particularly that the majority of headaches occurring in childhood are those known as reflex and the autotoxic, those of adult life are in the main symptoms of the functional neuroses and intoxications, while those of late adult life are usually expressions of arterial degenerations and the injurious actions of toxic agencies.

The two most important facts to keep in mind in endeavoring to interpret the significance of headache are, first, that it is an important symptom of a number of functional and organic diseases; and, second, that the location, character, and duration of the pain are oftentimes the means of suggesting and pointing its dependency.

Headache may be: 1. A symptom of functional nervous disease: neurasthenia, hysteria, epilepsy, and exophthalmic goiter.

2. A symptom of organic brain disease: meningitis, encephalitis, brain tumor, and brain abscess.

3. An indication of intoxication and infection. The sources of either of these may be endogenous or exogenous; that is, the intoxication or infection may arise from within the system, such as from diabetes, uremia, intestinal catarrh, etc., or it may be introduced from without, as by alcohol, nicotin, the metallic poisons, the malarial plasmodia, the acute infectious diseases, etc.

4. Due to disturbances and diseases of the circulatory system, such as accompanies the anemia of aortic stenosis and regurgitation, pulmonary emphysema and consolidation, general anemia and its different forms, and arterial sclerosis.

5. Due to causes that operate indirectly or reflexly to cause continued fatigue and exhaustion, such as from insufficiencies of the ocular muscles, irregularities in the refractive apparatus, irritation of the peripheral olfactory and trigeminal branches, or irritation of any of the great plexuses of nerves. Headaches of this variety are usually called reflex. When properly interpreted, there is no valid reason why this term should not be applied to them.

6. Due to trauma: traumatic headache. Headache may be the sequence of an injury that produces surgical conditions, such as wound of the scalp and bones, and it may follow trauma to the head which does not produce such injury. The explanation of the former variety does not seem a particularly difficult matter, and as for the latter, it is probably a variety of traumatic neurasthenia, occasionally pachymeningitis.

7. A local manifestation of rheumatic involvement of the epicranial and circumcranial tissues.

8. Finally, headache may be the expression of a pain habit, and to this the name habitual headache

is given. In other words, after the occurable headaches are parcelled out among these various diseases, there remain a small number that cannot be allotted to any one of them. It is more than probable that the headaches grouped under the heading of habitual headache are indicative in reality of a congenital or degenerative form of neurasthenia, and it is very questionable whether it should receive consideration apart from this group.

With this classification in mind, it becomes necessary to consider the characteristics of headache accompanying each of these diseases and classes of disease. By far the most important disease of which it is a symptom, because the most common, is neurasthenia. It is not at all improbable that nearly forty per cent. of all headaches of sufficient intensity and severity to demand treatment are a symptom of the neurasthenic state, in fact, we are justified in saying that all headaches of an intractable nature, and extending over a prolonged time are neurasthenic, with two exceptions: those due to brain tumor and to meningeal syphilis. The characteristics of neurasthenic headache are: (1) The location, on top of the head or encircling the head. (2) The character of the pain, a pressure feeling or drawing sensation. (3) The time of its occurrence, or better said, exacerbation, for it is usually present continually to a certain degree. The patient awakens with headache, and it continues more or less during the day, wearing off toward evening, being submerged by those pleasures or indulgences that increase general neural tone. Its disappearance coincides with the feeling of moderate well being which most neurasthenics have in the evening. (4) The fact that it is made worse by fatigue, mentation, and excitement. Sufferers with this form of headache are extremely voluble concerning their ailments. They harp on the different manifestations of their infirmity, and have a decided inclination to hypochondriasis. Such patients ordinarily present the customary slight physical accompaniments of neurasthenia: relaxed tonus of the skin, fine tremor of the extremities, particularly of the hands, excitable but easily exhausted muscle and tendon reflexes, such as knee-jerks, and evidences of disordered digestion, impaired assimilation, and constipation.

Hysterical headaches are, compared with the variety just considered, very uncommon. Their diagnosis rests first upon the nature and seat of the pain, the classical form being that of a nail driven into the head, the seat being at the supreme vertex, and its association with the corporal and mental stigmata of this neurosis. The more important of these stigmata are: hyperesthesia or anesthesia in the sensory sphere and special senses; hysterical tremors, spasms, or contractures; hysterical palsies; limitations of the intellectual sphere, obsessions, compulsions, and defective inhibition.

Headache accompanying the neurosis known as epilepsy is an extremely important symptom. Temporally, it may be preconvulsive, post-convulsive, or the convulsion equivalent. It is characterized by unheralded onset, by extreme intensity, and by its abrupt termination, followed by a period of great mental and physical exhaustion. The preconvulsive epileptic headache may be brief and of the nature of an aura. In such case it is followed by a convulsion, except in instances in which prompt and vigorous measures are taken to thwart the explosion. It is particularly those cases in which the headache is the equivalent of a convulsive attack that are followed by great prostration. The post-convulsive headaches are characterized by a feeling of soreness in the head, undefinable and unlocalized, and by more or less mental confusion. Both of these disappear as the headache passes off. All cases of idiopathic headache occurring in childhood and early adult life having some or all of the characteristics just enumerated, should be investigated most carefully and assidulously to determine whether or not they belong to this category.

Headache attending exophthalmic goiter is in its nature of two kinds, toxic and neurasthenic. The latter element is, I believe, the more important one. The entire symptom complex of exophthalmic goiter is practically that of a profound state of neurasthenia. Whether this neurasthenic condition is primarily or secondarily toxic does not here concern us. The headache which accompanies this disorder is characterized by its vertical and frontal location, by its throbbing, pulsating character, and by its amenability to measures that contribute to general repose and to slowness of the heart's action. It is aggravated by anything that produces the antithesis of these. Its diagnosis offers but little difficulty, save in those cases in which the headache is a precursor of the pathognomonic accompaniments of this disorder.

The most important organic disease of the brain and its coverings attended by headache, is tumor, and it matters not very much what the nature of this neoplasm may be, although its location stands in some relationship to the nature and seat of the pain. The character of the pain of brain tumor is a very variable quantity. In one case it is of a boring, gnawing character, in another of a distending, skull-splitting kind, while in a third case it is a dull, consciousness benumbing ache. In all cases, persistence is one of its most striking characteristics, especially in the beginning of the dis-

ease. Later on, when the sensorium becomes so benumbed from intraventricular distention that pain does not enter as a qualé of consciousness the patient ceases to complain. It is exacerbated by anything that jars the head, such as tapping, coughing, sneezing, and bodily agitation, and by everything that increases blood pressure or a determination of blood to the head. The pain is local or diffuse, and rarely does it correspond to the seat of the tumor or indicate its location. Tumor of the cerebellum, however, almost invariably is accompanied by headache, located in the occiput or the forehead. The occurrence of headache of the nature above described can only suggest the existence of brain tumor; its association with other symptoms makes the diagnosis.

The headache of brain abscess is not particularly characteristic. It may be said, however, that it is persistent; severer during the early night than the early day; increased by coughing, jarring, and stooping; entirely unamenable to any medication, and generally accompanied by corresponding and increasing mental obscuration. It is not infrequently localized, particularly when the brain abscess is of otitic origin, but in many cases the patient locates the pain remote from the seat of the disease. It is diagnostically significant only when associated with the known etiologic and symptomatic features of the disease.

The headaches of acquired hydrocephalus, of encephalitis, and of disease of the cranial sinuses have nothing pathognomonic about them. They assume importance only when associated with other and more significant symptoms, such as vertigo, vomiting, convulsions, and paralysis, for hydrocephalus; the manifestations of inflammatory phenomena, for encephalitis; and the accompaniments of an infection or marasmic condition, for sinus thrombosis. The headache accompanying the latter disease has, however, almost invariably a local seat which corresponds to the place of inflammation.

The headaches of meningitis cannot be easily and satisfactorily disposed of in a few words. Every practitioner knows that all the varieties of leptomeningitis are attended by severe headache, and that such pain has a number of distinguishing features and associations. It is of acute onset, of a boring, unendurable character, which causes the sufferer to shriek out in his sleeping as well as in his waking moments. It embraces the entire head, shooting from one location to another, and it is accompanied by such diagnostic symptoms as nuchal rigidity, localized and general spasm, pupillary inequalities, temperature, and finally paralytic phenomena. In tuberculous meningitis the headache is not so intense as in some of the other forms of leptomeningitis, and it is oftentimes localized in the occipital and cervical regions, while the pain of purulent meningitis is more often frontal than occipital.

The common forms of pachymeningitis are those due to syphilis and to trauma. They are both accompanied by intense headache, which is due to compression of the dural nerves. Both tradition and experience have it that the headache of syphilitic pachymeningitis is apt to be localized to a very small area or to involve the entire occipital or upper cervical region. The pain is not continuous, is sometimes worse at night, and is exacerbated by intellectual effort and by factors that increase the intracranial blood-supply. Headache of pachymeningitis cannot be distinguished by a consideration of this symptom alone from cephalic pain caused by such a condition as enlargement of the pituitary gland in acromegaly.

The headaches of circulatory disorders are not so common numerically as one might be led to suppose from reading the chapters on these diseases in the text-books. A decade or two ago cerebral anemia and hyperemia received a disproportionate and undeserved amount of attention, both from the neurologist and the general practitioner. Their occurrence, it was thought, was quite an every-day affair, and a fanciful, intricate symptomatic superstructure was erected to encompass their subjective and objective accompaniments. To-day it is well-nigh universally conceded that neither of these conditions occurs as an individual state apart from pathological conditions in other parts of the body. Undoubtedly, a condition of cerebral anemia is a common dependancy of aortic stenosis, and of mitral regurgitation when the latter goes uncompensated. On the other hand, pulmonary emphysema, pulmonary atelectasis, a prolonged paroxysm of pertussis or asthma, disease of the right heart, may and do produce difficulty of egress of the return circulation, and thus a state of hyperemia, but no one will be likely to contend that the cerebral anemia or hyperemia thus induced is an individual disorder. On the contrary, these factors are integers in the pathologic entity. It is very possible that prolonged and intense excitement, such as that of acute mania, the injection of large quantities of cardiac and vascular stimulant, and possibly great physical effort, may determine a disproportionate amount of blood within the cranium, but the facilities for adaptation provided by the enormous lymph-cisterns soon equalize this, and prevent it from becoming sufficiently permanent to constitute the basis of symptoms.

Headache is a common accompaniment of symptomatic cerebral hyperemia and anemia, and of general anemia. Its indicativeness is suggested by association with other symptoms. When we come to consider the diagnostic value of the locality of cephalic pain, it will be seen that headaches of general anemia are usually confined to the forehead and eyes, and associated with a more or less sharply defined area of occipital pressure. They are in reality a form of neuralgia in the majority of instances conditioned by want of nourishing blood-supply to the trigeminal and occipital nerves. The pain of anemic headaches is a variable quantity, but sometimes it is of almost intolerable severity. The patient is rarely completely free from it. Its character is that of a heavy pressing sensation, but at the periods of its exacerbation it is throbbing, and relieved by external pressure. The headaches that accompany chlorosis, progressive pernicious anemia, and leucemia have no striking characteristics that differentiate them from general anemic headaches. The headaches attending leucemia are not so intolerable, notwithstanding the gravity of this disease, as those of general anemia and chlorosis.

Headache due to the organic disease of the blood-vessels, arterial sclerosis, is associated with other very significant symptoms, a consideration of which readily makes the diagnosis. These are vertigo, slight syncopal attacks, disorder of the nutritional equilibrium, changes in the blood-vessels, detectible to the touch and to the eye, slight mental deterioration, and general lowered vitality. The headache is usually of a throbbing character, not infrequently associated with sounds and noises in the ear, a sensation as if the head were being drawn forcibly backward, and with a feeling of portentous dread. It is increased by everything that increases blood-pressure and by anything that diminishes vital force.

The headaches that are grouped under the caption of reflex headaches are a very important class, not so much because of their frequency, but because of the fact that they are extremely amenable to treatment if interpreted early; and extremely sluggish to any therapeutic response if they have been allowed to go on for a long time. In other words, if they are attacked before a headache habit is formed, remedying the conditions on which they are dependent suffices to cure in the vast majority of cases. If they are not such orthopedic measures only alleviate, but do not cure. By far the commonest cause of reflex headache is improperly implanted or innervated musculature of the eyes and defect in the refractive media. The headache which these two conditions cause is in reality an exhaustion headache. If it continues for a long time it is almost impossible to differentiate it from neurasthenic headache. If some of the muscles of the eyes are so deficient congenitally or as the result of disease that a strain is continually put upon other muscles in order to cause normal binocular vision, or if the cornea and crystalline lens are so ill prepared for their function that they do not focus parallel rays of light immediately on the retina save by the effort of muscles to change their radii of curvature, then the strain thus caused induces, after a time, a state of profound neural exhaustion which is manifest by headache. This headache has usually the following characteristics: It is limited to the forehead or to a very circumscribed spot in the occiput; it is made worse by use of the eyes, and it is remedied by resting the eyes and by anything that temporarily paralyzes accommodation. It is never present on arising in the morning and one of its most striking features is that it is strictly sabbatarian. Fortunately ordinary routine examination is often all that is necessary to show the shortcomings of the peripheral ocular apparatus and to indicate the necessary measures to overcome it.

The next most common variety of reflex headache is from the pelvic organs, and this variety of headache is peculiarly an exhaustion headache. It is not met with nowadays with one-half the frequency that it was in those times when it was the vogue to tinker with the generative organs of the female. Reflex-uterine headache has been expiated at the shrine of the modern, non-meddlesome gynecologist. Headache associated with posterior displacements of the uterus and cervical lacerations—two important causes of uterine headache—is usually neuralgic in character, its favorite location being in the occiput. Such cephalalgia is often associated with tenderness on pressure in the cervical region and with "weak back."

Judging from my own experience as well as from the statements of rhinologists, headaches associated with disease of the nasal passages without involvement of the frontal sinuses and ethmoiditis is not very common, although some nasal specialists would have us believe that more than three-fourths of all headaches, including migraine, are due to disorder of the nose. The intemperateness of such a claim indicates that the one who makes it has his visual horizon limited to the field of the nasal speculum. Nasal headaches are usually due to irritation of the branches of the trigeminal nerve, caused by swelling of the mucous membrane and deformity and hypertrophy of the nasal walls. It is frontal in location, usually above the root of the nose, of a dull, boring character, oftentimes relieved by gentle frontal pressure and temporarily ameliorated by sniffing pungent

aromatic substances. It is more or less continuous, but very liable to paroxysmal exacerbations. It is worse in the morning immediately on arising and usually it ameliorates materially after the patient has had his bath, breakfast, and any other indulgences that improve the general circulation and temporarily invigorate. If dependent upon ethmoiditis or disease of the frontal sinus the accompaniment of swelling on the orbital surfaces of the nose and the discharge are important. Headaches that are reflex from the ear are very uncommon, and when they occur they have no distinguishing features, save the location in the mastoid and temporal regions.

Reflex headache from other causes, such as from the sexual organs of the male, are oftentimes subjective states of consciousness on the part of the diagnostician.

Headaches of toxic origin, using the word toxic to cover endogenous and exogenous sources, have little in their localization or character to distinguish them from other headaches. The fact that they occur in persons who use tobacco, alcohol, tea, drugs, etc., and in those who are exposed to the absorption of lead, carbon dioxid, mercury, phosphorus, etc., leads one to suspect their true origin, while the presence of other more characteristic features of such intoxication attests the diagnosis. Like the headache of auto-toxemia, particularly those associated with intestinal catarrh, they are oftenest located in the front of the head and described as heavy-pressure feelings, though sometimes they are of a throbbing nature made worse by anything that disturbs the vascular circulation. The metallic poisons, arsenic and iodin, produce a very characteristic feeling of suffusion in the forehead, while lead, on the other hand, frequently causes a diffuse pain extending over the entire cranium, but occasionally confined to one spot in the distribution of the trigeminal nerve. More than a few varieties of headaches are associated with disorder of the digestive apparatus. Four factors enter ordinarily into their production: (1) The absorption into the system of products of incomplete digestion and assimilation, which, in the process of metabolism, principally in the liver, result in the formation of alkaloidal substances having toxic properties. (2) Diminution of blood-pressure apart from that produced by the action of the resulting leucomains and ptomains. (3) General and local anemia, which is almost invariably an accompaniment of indigestion; and (4) reflexly, from distention of the gastric and intestinal walls. These headaches are usually frontal, often immediately above the eyebrows, and the patient describes the pain as a confused, apathetic feeling, with exacerbations of sharp pain. It is almost invariably worse in the morning and is frequently relieved by purgation or by vomiting. The diagnosis is to be made from the condition of the patient's breath and tongue, from the accompanying phenomena of disordered stomachic and intestinal digestion, and finally, if necessary, by the administration of a test meal, its removal and analysis. Headache that accompanies an attack of acute indigestion varies in its localization, character, and intensity with each patient. In my experience the commonest location is the anterior one-half of the head; the pain is of a throbbing character synchronous with the heart-beat and it is made very much worse by physical activity and especially by sudden changes in the position of the body. It is often associated with a sensation of a collar or band bound tightly around the neck; with flushing of the face and slight injection of the conjunctiva.

A form of intestinal trouble which sometimes produces headache in children is the presence of parasites. The diagnosis is to be made only when the parasites are found in the stools. Headache is the commonest forerunner of the infectious diseases, but with the exception of a few, such as syphilis, malaria, typhoid fever, influenza, and epidemic cerebrospinal meningitis, they have no distinguishing features. Headache is an extremely important accompaniment of syphilitic disease, and it shows itself either during the period of eruption or as a symptom of tertiary manifestations. The headache of the eruptive period may be distributed over the entire head, or limited to the occiput. Very rarely does it reveal itself as hemicrania. It is not distinguished so much by its location as it is by the fact that it occurs usually at night, or is very much worse at this time. During the day it diminishes in severity or disappears. It is not infrequently accompanied by manifestations of frontal or parietal periostitis, discernible to the sight and to the touch. Headache accompanying the later stages of syphilis is perhaps of even more frequent occurrence. Although it has a decided predilection to be worse at night, it is more readily recognized by its association with vertigo, slight dementia, paresis, or spasm of the musculature of the cranial nerves, and by other irritative and paralytic phenomena which pursue an extraordinary course than by any other feature.

It was formerly thought that headache of malarial infection was usually a neuralgic-like pain over the eyebrows, having a striking periodicity, but the recent experiences of our citizen soldiers in the tropics have shown that at least the headaches of acute malarial infection have no diagnostic features. It is quite impossible to differentiate them from those of typhoid fever. It is probably

true that the profound anemia which is such a striking accompaniment of chronic malarial poisoning, expresses itself oftenest in the nervous system by a neuralgia of the supra-orbital nerve. But nowadays one would not be likely to make the diagnosis of malaria without having discovered some form of plasmodium in the blood.

The headache of epidemic cerebrospinal meningitis is so characteristic, both in its location and intensity, that it requires no detailed description.

(To be continued.)

THE CARE AND MANAGEMENT OF THE PREGNANT WOMAN.[1]

BY B. M. HYPES, M.D.,
OF ST. LOUIS, MO.

PREGNANCY is a natural physiological function. In a state of perfect health it should be accomplished without disease or suffering. But, as a matter of fact, so generally is pregnancy associated with discomfort and illness, that a celebrated French obstetrician has called it "a nine-months' disease." Nor is it to be wondered at that women should suffer in this condition. Under no other circumstances do such extensive changes in organs and functions take place in so short a time. In this disturbed and hypersensitive condition of mind and body, how readily the overworked organs pass the boundary line from exaggerated physiologic function to a pathologic condition, and how often do we find the latent or mild forms of disease, especially of the kidneys, heart, and nervous system, slowly and insiduously develop most dangerous and uncontrollable symptoms? But proper care and management will lessen if not entirely relieve the many discomforts of pregnancy, and timely medical advice will generally ward off disease and prevent it assuming a dangerous character. By skilled attention during pregnancy not only will gestation be more successully accomplished, but the woman will be so strengthened and fortified for the demands of labor that its difficulties and fatalities will be markedly lessened.

My observation and experience leads me to think that this is a field in obstetric practice that needs cultivation by us as physicians. The laity, too, need education on the importance of caring for a woman throughout pregnancy, not only for her own sake, but, as Plato has expressed it, "that she may successfully bear children to the State." We may, very properly, go still further back and demand that the girls, the future mothers of the country, should receive such care, training, and education as will properly fit them for this noble and responsible duty. They should be taught the simpler laws of hygiene—how to eat, to exercise, to care for their bodies and minds in order that they may develop into healthy women. The hygienic surroundings of every school, factory, store, and workshop should be supervised in order to protect them from injury and abuse.

In viewing this subject from a practical standpoint the inquiry naturally arises, In what does the care of a pregnant women consist? Can such a practical course of management be adopted that it will meet with the approbation of the profession and become a feature of our routine practice?

The care of the pregnant woman should begin with conception. The laity ought to be taught that whenever a woman finds herself pregnant she should at once select an attendant physician and place herself under his care. This she does, not to be "dosed" with medicine, but that she may receive advice and instruction as to the duties and dangers of pregnancy, and that her physician may gain such knowledge of her as will enable him to successfully manage both her pregnancy and labor. The physician should thoroughly familiarize himself with her personal and family history, with all difficulties in previous labors, with all peculiarities and idiosyncrasies, so that he may fit his instructions and medication to her individual case. He should then advise her in regard to her food, its character, and when and how it should be taken; as to bathing, and how performed; as to proper clothing, and mode of wearing it; as to the danger of constipation, and means of prevention; as to bad effects of coitus, and the necessity of its control; as to the care of the breasts, so as to fit them for the new function of lactation, and of the necessity, especially after the sixth month, of frequent examinations of her urine.

She should be advised as to certain danger signals, and should be thoroughly impressed with the necessity of informing him at once of any abdominal pains, of any flow of blood from the vagina, of persistent headache or dizziness, of any epigastric pain, of nausea and vomiting late in pregnancy, and of the first appearance of edema. She should be informed of the danger of lifting heavy weights, ot reaching, of overexertion and of fatigue, of riding over rough roads, and of taking long railroad journeys. At the seventh month he should make a careful physical examination, both external and vaginal, to determine the presentation and position of the child, and to note any abnormalities which might seriously complicate labor. Pelvimetry must be regarded as a most necessary part of this examination.

[1] Read before the Missouri State Medical Association at Kansas City, Mo., 1898.

To this scheme of the management of pregnancy I apprehend two objections: First, that it is unnecessary, as a pregnant woman seldom needs medical attention; and, second, that it is impracticable. As to the first, let me reply that the same may be said of labor. In a large percentage of confinements the physician need merely stand by and Nature will do the work. But his presence is, nevertheless, demanded to attend the natural as well as the difficult cases that he may watch for dangerous delay to mother or child; to protect the perineum; to see that the secundines are all expelled; to prevent postpartum hemorrhage; to assist when Nature fails; in short, to prevent all evil consequences to his patients. Likewise, as a preventive measure, should this close attention to the pregnant woman serve to instruct her in hygienic laws; to impress upon her the importance of watching for the first signs of disease, so that it may be checked in its incipiency; to correct abnormalities when possible. Thus forearmed, the physician will anticipate and be prepared to treat most successfully emergencies that may arise during labor, and so be able to lessen the unduly large mortality of childbirth. Puerperal eclampsia, that dire calamity of child-bearing, is a preventable disease, and will almost disappear from the records when women are properly cared for during pregnancy. The brilliant obstetrical and surgical records of the maternity hospitals are greatly due to the fact that women are under observation and the abnormalities diagnosticated during pregnancy, and because the most favorable time for operations is taken advantage of.

As to the second question, Is it practicable? I desire to answer most positively *Yes*. For several years past this has been my practice, and rarely do I attend labor cases except in consultation without having had the patient under previous observation. I make it a practice to visit the patient frequently; to make frequent examinations of the urine; to measure the pelvis of all new patients; to note the presentation and other conditions of the child in utero; to learn the patient's history, and to fortify her against probable or possible difficulties.

In conclusion, I hope that every member of this Society who attends pregnant women will consider thoughtfully the suggestions of this paper, and if in the slightest degree the practice of obstetrics shall be made more successful, the object of the writer will have been attained.

Yale Medical School Changes.—Dr. Benjamin Moore of London has been appointed professor of physiology in place of Dr. Graham Lusk, and Professor Allen R. Defendorf has been appointed Lecturer on Insanity.

THE USES AND DANGERS OF INVESTIGATION IN PUBLIC AND PRIVATE CHARITIES.[1]

BY JOSEPHINE SHAW LOWELL,
OF NEW YORK;
MEMBER OF THE NEW YORK STATE BOARD OF CHARITIES.

THE uses of investigation in the work of "charity" are obvious. The first use is so obvious that it seems almost needless to mention it, especially to an audience of medical men. It would be as reasonable to ask "what is the use of a diagnosis?" as to ask "what is the use of an investigation?" The use is to *find out what is the matter*, because if we do not know, we cannot do any good at all. There is always a cause for the distress of those who come asking for help, and we cannot really help them, unless we know what the cause is, and at least *try* to remove it. And yet there are many people who are benevolent and who want to help, but who go on blindly without getting any thorough knowledge of the actual condition of those who come to them. To take the commonest and perhaps most natural form of this error as an example: Many benevolent people know only the *women* of the families they are trying to help. They want to elevate their physical and moral condition, but how can they elevate them if they are only brought in contact with one-half of each family, leaving out of account the person whose duty it is to do for his wife and children what they are undertaking to do for them? How do they know that the husband of the woman they are supporting is not at work? How do they know that he is not spending all he can earn and all he ought to devote to his family at the corner grog-shop? How do they really know anything of the family, if they ignore the existence of the head of it, of the man responsible before God and man for its well-being?

The second use of investigation is that it prevents the growth of great moral evils, for its absence tends to the speedy demoralization of decent people. What I mean will be perfectly clear to you if you will consider what a terrible temptation is presented to unhappy people in distress, if they can go round from church to church, from person to person, repeating a story of misery and distress, obtaining from each person twenty-five cents, fifty cents, or a dollar, and sure that not one of them will ever make any real inquiry into the facts, sure that none of them will ever know that the others are giving also. Let me give an illustration. A decent, but improvident man dies and is buried, by his club, or his friends, or by "charity," and the newly made widow is left with a number of young children dependent upon her for support and care. She must act the part of

[1] Read before the New York Medical League at its meeting at the Academy of Medicine, January 20, 1899.

both father and mother, and her state is pitiful indeed. She has no relations and she turns naturally to the members of her church. She touches the sympathy of those she applies to, but no one feels any sense of responsibility, no one feels obliged to make an investigation, no one recognizes the great danger with which the woman and her children are confronted, the danger of becoming degraded and corrupted into beggars and liars, and so every one does just enough to quiet his own sense of pity, gives $1, or $5, or $10, according to the more or less touching nature of the woman's story, and then dismisses it from his mind. The poor woman, truly in distress, finds that the recital of her sufferings brings in a sum of money which ten days of hard work would not earn, and, most naturally, she is content, when the proceeds of her first appeal are spent, to make another. Why should she not? It would be *stupid* to seek for washing or scrubbing at a dollar and a half a day, when she can get $5 or $10 in an hour by telling the truth to two or three kind-hearted people. She finds, however, that as the truth becomes less sad, as her loss affects her less, and the urgency of her appeal is diminished, that the proceeds are diminished also and therefore she does not confine herself to the truth. She colors and exaggerates; she takes one or two of her children with her to help her emphasize the story; she teaches them to cheat and to lie, and she finds that it *pays* and thus she is tempted into a life of deceit, and her children follow in her path, and it is the neglect and carelessness of *benevolent* people who will not take the trouble to find out the real condition of the family and to make and carry out a plan by which they can be rendered self-supporting, that brings them to this horrible condition.

But investigation is of use not only in preventing the demoralization of decent people, but in the detection of those who have become expert deceivers —and this is important because it too has a bearing on public morals. It would certainly not be worth while to take any trouble to save the sums which rich people waste on ill-considered alms, but it is worth while to take a great deal of trouble to save the poor from the temptations which beset them when they see the rewards reaped by successful knavery. It would not be worth while to pursue imposters and punish frauds were the only advantage gained the saving of money to extravagant and selfish people—but it is worth while to prove that lying and cheating are not an easier and pleasanter way to get a livelihood than by working.

Let me sum up then the uses of investigation I have named. 1st. Investigation as the only means of learning how to really help those in distress. 2d. It prevents the demoralization of decent people by removing the temptations to beggary. 3d. By the discovery of fraud investigation makes a life of deceit less attractive.

But to offset these uses I must now turn to the dangers of investigation, for it is a dangerous tool which may wound cruelly, if used without thought and care. We had in New York, in the hard times of 1893-4, a most painful experience in this regard. The very word "Investigation" seemed then to have been made a sort of shibboleth by the newspapers, and in too many cases by the ministers also, and to every remonstrance against methods of relief-giving which were injurious to the character of those who were supposed to be helped by them, and cruel in their entire disregard of their comfort, happiness, moral and physical well-being, it seemed to be considered a sufficient answer to say: "All the cases have been thoroughly investigated." And it was evidently thought that this answer ought to be entirely satisfactory even though the investigations were made not for the purpose of furnishing guidance and knowledge for a long course of "treatment" by which weak wills might be strengthened, bad habits be cured and independence developed, but in order that a ticket might be given which would entitle the man or woman to receive some old clothes, or some groceries after a long, weary waiting in the street in the midst of a crowd of miserable people whose poverty and beggary were published to every passer-by.

Think of the destruction of self-respect, the crushing out of all shame, the fostering of every unworthy feeling which such an experience must result in, and yet this too often was what "investigations" were made for during that winter in New York, and both newspapers and ministers seemed all alike to accept the theory that so long as the people were found to be "worthy" it mattered not how much their characters were injured, provided only their bodies were fed, or, in other words, how thoughtlessly the work of making them "unworthy" was carried on.

Since such dreadful results can come from a failure to recognize the true uses and limits of investigation, and since they have arisen from a misunderstanding of them, I believe it to be our duty to declare that investigation, in itself, is *bad;* that the only excuse for trespassing upon the privacy of other human beings, for trying to learn facts in their lives which they prefer should not be known, for seeking to discover the weak spots in their characters, for trying to find out what pitiful personal reason there is for the distress in which they are, for seeking to learn what sorrows their nearest and dearest have brought upon them—the only justification, I say, for doing all these painful things, which are too

often included in the single word "investigation," is that the person in distress has asked you to help him, and that you *mean* to help him, *to help* HIS SOUL and not only to feed his miserable body, and that you cannot help him unless you do know all about him. Everything that is said against investigation by its critics is true, and no one feels the truth of it more strongly than we who believe in its necessity. We know that it is a necessary *evil*, and we try to make it as little evil as we can, and we only justify it, as I have said, because it is the preliminary to the real work of helping those in distress by careful, conscientious, patient, painstaking personal work, just as the torture of a sick man by the physician's examination can be justified only for the same reason, that he has to know what the matter is before he can take one step in trying to cure the man.

The necessary invasion of the privacy of the lives of other men and women is one of the great evils of "investigation"—it is a sort of outrage upon the dignity of a human soul, and ought not to be undertaken if the object of the investigation is not a nobler one than the mere feeding of the body, for the soul should not be sacrificed to the body—"What will it profit a man if he gain the whole world and lose his own soul?"

In all such work the best rule is to "do unto others as ye would that they should do unto you" and to try to realize what would be the effect on one's self of the contemplated action, and also to remember that, the object being to help, one must do as little harm as possible in the process of helping.

The thorough investigation and study of the character and needs of persons who ask for help and the attempt to educate and develop them, even by means which may not be very pleasant to them, is sometimes called "the new charity," but it seems to me it is only obedience to the old teaching I have quoted. For, after all, would we not each one of us prefer to be dealt with, were we in the place of an applicant for relief, in such a manner as would elevate us morally and physically? Would any one of us deliberately choose such treatment from another as would undermine our moral strength and power, even though it should save us from suffering?

Does not God deal with us in what we choose to call "the new way"? Are we not driven by necessity to exert ourselves, do we not suffer the results of our own acts, can we by any means escape from the consequences of our sins and mistakes? And is not the common way of relief-giving and what we call "charity" so far as possible an *interference* with God's education of his people? We relieve men and women of the necessity of working, we reward them for idleness, we encourage them in vice, we take their children from them when they are young and troublesome and care for them in institutions, and when they are old enough to labor we give them back to those who claim a parent's rights, although they never discharged a parent's duties. We tempt our poor weak brothers and sisters to give up the struggle which has been appointed to make them strong and brave. We accept every invention they use to work upon our feelings; we lead them to lie to us and to become cheats.

CLINICAL LECTURE.

EPITHELIOMA OF THE PENIS.[1]

By WILLIAM L. RODMAN, M.D.,
OF PHILADELPHIA;
PROFESSOR OF THE PRINCIPLES OF SURGERY AND CLINICAL SURGERY IN THE MEDICO-CHIRURGICAL COLLEGE; FORMERLY PROFESSOR OF SURGERY AND OF CLINICAL SURGERY IN THE KENTUCKY SCHOOL OF MEDICINE, LOUISVILLE, KENTUCKY.

THIS patient, Mr. B., aged about seventy years, has an epithelioma of the penis, the exact duration of which is uncertain but the history seemingly shows that it was first noticed three years ago. He has been treated in the genito-urinary department, caustics having been applied on several occasions. While the growth was apparently destroyed by caustics, it promptly returned, since which time there has been intense pain in the glans penis, and great difficulty in micturition. For these reasons the patient has consented that his penis be amputated, which I have told him offers the best chance of ultimate cure and promises speedy relief from his suffering.

Epithelioma of the penis sometimes runs a chronic course; such a course, however, is rare. It usually destroys life in 3 to 3½ years; this is about the average duration. The disease may begin in the prepuce, on the glans, or at the junction of the prepuce and glans; it may begin as a wart, a crack, or a distinct ulcerative condition. There may or may not be pain; usually, however, there is pain early in the history of the disease. If, as occasionally happens, the growth is situated well forward on the prepuce, it may be entirely removed by circumcision, though I have never seen a case in which such treatment would be applicable. I believe the only methods of treatment to be considered are: (1) by the knife, (2) the application of caustics, and (3) the use of the galvanocautery. I have seen one excellent result from the application of caustics. In that case the patient declined the use of the knife, but readily consented to the application of escharotics. The man has done uninterruptedly well for 2½ years, and has about reached the time when it may be said with comparative safety that he is cured. Most recurrences take place within twelve months, some as late as 2 or 2½ years, and in exceptional cases later than 3 years, but it may be stated that

[1] A clinical lecture delivered at the Kentucky School of Medicine Hospital.

if a patient operated upon for malignant disease in any situation passes 3 years without recurrence he is practically safe, as there are not many chances that the disease will recur.

Epithelioma of the penis is most common in elderly men. It is rare under forty-five years, and yet I have seen two such cases, one in a man aged forty-one, and in another aged thirty-five. The greatest number of cases occur in men between fifty and seventy years of age.

While the galvanocautery has been used in many instances for the removal of epithelioma of the penis, and is still advocated by some surgeons, its use is not to be advised. Statistics show that cutting operations by cold instruments are preferable to operations by heated instruments. This at first blush is perhaps just the opposite of what might be expected. It might be reasoned *a priori* that the cautery would materially lessen hemorrhage, a danger in the operation which is greatly magnified by some authorities. One reason why the mortality after the use of hot instruments will be greater than after that of cold instruments is the fact that pyemia, erysipelas, and septicemia are more likely to follow the use of the former. This may be difficult to understand at first, yet it is reasonable when viewed from the proper standpoint. When hot instruments are used blood-clots and tissues are necessarily left to decompose in erectile structures where absorption perhaps takes place more rapidly than in any other situation of the body. It must be remembered that following the use of hot instruments in this operation there is left in erectile tissue a slough which cannot be gotten rid of on account of the crust above, thus furnishing suitable conditions for the development and growth of pyogenic organisms. For the reason that absorption of these septic products rapidly takes place, because of the abundance of absorbent vessels in this peculiar tissue, it is not unreasonable to expect a certain number of deaths from pyemia, septicemia, erysipelas, etc. The mortality following the use of hot intruments in this operation is from three to five times as great, according to the statistics of Butlin and other excellent authorities, as when the knife is used. The cardinal feature in amputating the penis is to leave the urethra longer than the corpora cavernosa, otherwise the urethra will curl up and retract beyond the end of the stump and give the patient trouble when he begins passing urine in the natural way.

In this instance the method of procedure will be that devised by Jacobson. A flap will be made from the dorsum of the penis, the incisions being carried down on each side very much as would be done in amputating at the lower third of the thigh. The dorsal vessels of the penis, which will be contained in the flap will then be tied, and a catheter will be introduced into the urethra to outline the corpus spongiosum. A straight bistoury will then be inserted so as to just miss the corpus spongiosum and not cut too far into the corpora cavernosa, between them if possible, on a level with the retracted flap. It will be carried downward about one-half to three-quarters of an inch, and then made to cut obliquely outward so as to leave the urethra much longer than the corpora cavernosa. Re-inserting the knife at the same point the corpora cavernosa will be cut vertically, thus making two skin flaps. The arteries of the corpora cavernosa, also one coming from the bulb of the corpus spongiosum, must then be ligated. The urethra will be pulled forward, a hole will be made in the upper flap, the urethra brought into this split into halves and stitched in position. The penis will thus be entirely covered by a skin flap which will materially shorten convalescence and give the patient less pain because urine will pass over the skin rather than over the exposed corpora cavernosa. A catheter will be introduced into the bladder and to this will be attached another Nelaton catheter so as to carry the urine away from the dressing. After the primary dressing has been removed, nothing but iodoform will be used.

When this patient was first seen by me there were a number of enlarged glands in the inguinal region. These glands have since decreased in size, and I think the enlargement was due to some cause other than the epithelioma, probably cauterization of the sore on the penis. It is easily understood how these glands may become enlarged from irritation about the penis whether or not the irritation be chemical, gonorrheal, chancroidal, or syphilitic. It seems that the glandular enlargement in this case was sympathetic, and not due to metastases or malignant deposit. Had it been thought due to metastasis the glands would have been cut down upon and removed. The patient will be carefully watched and if it seems wise at the end of a week or ten days, when he has recovered from the present operation, all the inguinal glands will be removed.

As to the mortality following amputation of the penis, a conservative estimate would be two or three per cent. Some authorities place it as high as five per cent. or higher. Death occurs from erysipelas, pyemia, or septicemia. It is rather remarkable that sometimes after amputation of the penis a patient passes into a condition of hypochondriasis, and death results seemingly from this cause alone, without metastasis and without recurrence of the malignant disease *in loco*, or in any of the internal organs. This is a fact which must be considered in advising recourse to this operation, especially in young men. Of course, when a patient has passed three score years and ten it makes very little difference.

The great majority of growths of the penis are carcinomatous in character. Sarcoma of the penis is so rare that it practically does not occur. So far as I know, only two cases of primary sarcoma have been recorded, one by Dr. Porter, and one by Professor Agnew of Philadelphia. Schirrus occurs, but is also rare. Encephaloid is even rarer, and a careful examination of a vast majority of these cases, some of which were formerly regarded as soft cancer, are shown to be squamous epitheliomata. Some authorities have denied that an epithelioma will cause involvement of the internal organs. If the internal organs are affected in some cases they claim that the disease must necessarily be of a schirrus or encephaloid type. Nothing is more unreasonable than this. Metastases occur in epithelioma, not so quickly as in some other forms

of cancer, but they occur, nevertheless. There may be metastases in the liver, spleen, and other internal organs, just as in other forms of carcinoma.

In this connection it may be well to consider the differential diagnosis between epithelioma of the penis and lesions produced by venereal diseases. Chancroid hardly need be considered as in such cases multiple sores are the general rule. If a patient has one chancroidal sore he is likely to have half a dozen, the inoculability of the pus causing a sore wherever it comes in contact with an abraded surface. The life of a chancroid is short, as is also the period of incubation. Between a true chancre and an epithelioma there are important differential points. The age and habits of the patient will assist materially in the diagnosis. An old man would rarely be suspected of having venereal trouble. It must be remembered that epithelioma is rare prior to forty, and that syphilis, *per contra*, is more common under forty. The period of incubation in syphilis is a guide, as is also the history of a suspicious intercourse, and involvement of the inguinal glands occurs early. While the lymphatic glands become involved in carcinoma they do not become affected as early as in syphilis. An epitheliomatous ulcer or wart may exist for six months, a year, or longer, before appreciable involvement of the lymphatic glands occurs. Again, glandular involvement in venereal disease is of short duration. It passes away of itself. Not so with glandular involvement the result of an epithelioma. The condition of the ulcer itself is also important. The ulcer in epithelioma is deeper than it is in syphilis, and the edges are more raised. It is true they are elevated in syphilis, but are more so in epithelioma. In syphilis induration of the tissues around the ulcer is much greater than in epithelioma. In epithelioma induration often exists after caustics have been applied. Accompanying epithelioma there is never an eruption or other constitutional symptoms which will almost surely be observed in syphilis. In any case of doubt, however, and it can be well understood that there will be border-line cases, treatment will clear up the diagnosis. If it is undesirable to wait two or three weeks or perhaps longer for results which will follow specific treatment, a small portion of the suspected ulcer may be put under the microscope for examination and search made for cells which are characteristic of epithelioma on the one hand, and the bacillus of Lustgarten on the other. The latter may or may not be found. Some authorities even deny that it is the cause of syphilis. There can be no mistake about the characteristic cells of epithelioma.

The Brooklyn Memorial Hospital.—In 1891 a few women physicians who had been refused a clinic in the existing hospitals and dispensaries in Brooklyn opened for themselves a dispensary for women and children. The outcome of this movement is the Brooklyn Memorial Hospital for Women and Children, which has thus been founded, developed, and managed by women. The resident staff and the regular visiting staff are all women; some of the members of the consulting board are men. This hospital also maintains a school for nurses.

SPECIAL ARTICLE.

THE MEDICAL NEWS' INVESTIGATION INTO THE CLAIMS OF CHRISTIAN SCIENCE.

BY JOHN B. HUBER, M.D.,
OF NEW YORK;
ASSISTANT TO THE CHAIR OF PRINCIPLES AND PRACTICE OF MEDICINE IN THE NEW YORK UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE.

(Continued from page 110.)

CASE IV. — A woman, unmarried, aged thirty-five years. Said to have been cured of double pneumonia by a Christian-Science healer. A sister died from consumption; had been her constant attendant. In November, 1895, she had "double pneumonia"; had been "running down" before that time. Had then been six months in Christian Science. During her illness had eaten little. Slept much. Had pain in her side. Much distress in breathing. Coughed, but could not recall if she coughed up any sputum, or if it was bronze-colored or streaked with blood. Was constipated. Felt hot, "face swollen and purple." (Temperature not taken.) Worked hard against the symptoms, which have passed out of mind. Family thought she was dying. Her nurse "saw at a glance that she had double pneumonia." She would not allow the family physician to see her; no physician made a diagnosis. Her "healer" had to work in this case against adverse thoughts in her house (her sister was a believer in "faith cure," and was inimical to Christian Science). Said she was sick with the pneumonia for three weeks, but was convalescing "some time longer." No medicines were given. [Another person tells me this illness lasted three months.]

CASE V.—A man, about thirty years old. Come into Christian Science two years ago. Before this was a dipsomaniac and an inveterate smoker. During his first treatment his healer said: "This [alcoholism] is a lie; you are a child of God," etc. In describing the scene the subject said to me: "After her treatment I had a violent trembling, and with that came a sense of worship and adoration such as I had never felt before. I felt impelled to fall down and worship her." Since being in "Christian Science" he has not been a drinker nor a smoker. He went through a course of instruction in Christian Science, but did not become "spiritualized" until later. As a child he had scarlet fever, followed by severe earache, resulting in a perforation of the drum. A year ago he had pain in the heart and congestion in the head; feared death. His healer treated him "absently;" after an hour his pain and sensations were relieved. Shortly afterward, while in church, he felt as if half his head had broken loose; there was a great volume of sound. Since then he has had normal hearing in both ears. [I have met this gentleman's healer and am unable to explain his "sense of worship and adoration" upon any rational basis.]

CASE VI. — Wife of subject of Case V., twenty-nine years old. Nine years ago had peritonitis and was very ill for several months, the result of a miscarriage. There was ulceration and congestion of the womb, with constant headache, indigestion, irregular, and painful

menses (every two to three weeks). Was very nervous. She had constipation, flatulence, and prolapse of the bowels. About eight years ago was treated by Dr. A. (R.) At another time Dr. B. (R.) performed an operation for adhesion of the clitoris. Year after year she became gradually worse up to two years ago. She decreased in weight to eighty-five pounds, and her mental condition was "awful—she was almost insane." Two years ago she went into Christian Science. About two weeks after the beginning of this treatment she had a "chemical." Blood and mucus came from the bowels. Then she had intense pain and bloated. Had a chill which lasted half an hour, after which she took to her bed. This was followed by fever; she was "literally burning up." Her healer told her to *take a drug and demonstrate over the drug rather than over her condition.* As her husband read "Science and Health" to her she seemed to get better. Since then has been healthy. Has had "spells" from time to time, but Christian Science has cured them. Now weighs 130 pounds.

Dr. A. writes: "The pelvic organs were involved, there being a salpingitis and ovaritis present. The tubal tumor was a recurring one with remissions in which there was natural outflow through the uterus. The ovaritis was always aggravated by the tubal condition. There was catarrhal inflammation of the colon, especially at the sigmoid folds, and some proctitis, with all the reflex symptoms which usually arise from disease of these organs."

Case VII.—A man, singer by occupation, aged thirty-two years. Was born at eight months. As a small boy he was never sick, but was always weak. Sang in various churches from boyhood. Contracted sore throat easily. At the age of twenty-one years was very delicate. Eight years ago Dr. A. (H.) treated him for grip. Some thought he was going into consumption. All that winter he lived on brandy and milk-punches. About six years ago he studied Christian Science; then he began to improve in every way: his throat was better, and he began to grow stout. About a month after going into Christian Science he had a "chemical" lasting one week, after which he was absolutely well. Formerly he used to be compelled to be excused from church service because of inability to sing; since going into Christian Science he has not missed a service. Five years ago he woke up one Sunday morning with symptoms of grip: aching all over the body, tired feeling, headache, coryza, etc., exactly as during his first attack. He "demonstrated" over this condition, and went to church that morning and sang; he had not been appointed to sing a solo, but the soprano happening to be absent, he sang alone in her place.

[This subject has a treble voice. There is something vague about his eyes, a condition I have observed in a number of these people. He has the "shifting," "wandering," "fugitive" eye. It seems that to "demonstrate" over a condition is to satisfy one's mind that the condition does not exist.]

Case VIII.—Man, aged thirty years; of German birth; a healer, formerly a zither-player by profession. From childhood was considered very delicate. Before he was a year old had an operation performed on his right arm. [Scar here and also on the right ear.] Had "rothe flechen" as a child, which was supposed to be worse than smallpox. Had a European physician as a child; never was expected to be strong or to do any good work, was so puny. Coughed much, and was weak up to about eighth year. Eight years ago had great pain. Said to be rheumatism; others said "inflammation." Had from twenty to thirty tumors, each about the size of a hickory-nut, all over his head. Had great pain, coming on at any time. Had sore throat, which he considered bronchitis. Pain beginning in shoulders and going to other joints; the joints were swollen and reddish, and he had fever. Swelling would not last, but would occur and then disappear. Pain would be so bad that he would scream with the fear that any one in passing might touch his bed. [These conditions were what the Christian Scientist would consider due to "extreme violent self love!"] When he cried red spots would come out on his body. From time to time teeth hurt; would then have to spit a great deal. Pain used to be so great that he had to go about on hands and feet like a dog. Went to a dispensary, and at various times to a number of physicians. Took quinin and other drugs, and afterward his stomach got out of order. He tried Turkish and electric baths. First entered the hot room for thirty minutes. Pain would then leave for sixty minutes, and not one minute longer; after one hour exactly the pain would return. After having tried a number of regular practitioners, he consulted a homeopathic physician, who asked after his mental trouble, and gave him some tablets having the taste of creme-de-menthe. Whenever he was rid of pain he "would be very jolly." When ill he felt that he had suffered because he had left the Catholic Church, the church of his childhood. Then he would become remorseful, and would pray until he would faint. This had no effect on his pain.

Five years ago, at the end of the World's Fair, he went into Christian Science. On he train from Chicago to New York he held the thought that "God is love"; he kept this thought so constantly in mind that in passing Niagara he would not look at the Falls. On reaching this city he went to the Christian-Science rooms. "Everyone came to me because I was such a frail little thing." The wife of the man whose history is detailed in Case XII. took charge of him. She told him "God is life, truth, and love; you may not know now what this thought means, but by and by it will come to you." "Then I went to hear Mrs. X., a Christian Scientist, lecture. She said 'Causation is mind.' I could grasp only this thought out of one-hour's talk. While Mrs. X. was preaching I had hell-fire pain, and wanted to be out in the street. Then just before she stopped speaking I felt rid of pain, and a beautiful feeling came over me. Then my pain stopped, and I have not suffered since." Since then has not used drugs, liquor, nor tobacco. "I love Mrs. Eddy. Oh! how I love her, our mother! If she should tell me to jump off Brooklyn Bridge I would do so instantly, because I would know that if she should

tell me to do so it would be all right." Did not at the time of my visit recall the names of any of his physicians, but he promised to "think them up" and send them to me. Has healed a number of persons with consumption, locomotor ataxia, etc.; promised to send me the names and addresses of some of them, or to take me to call on them; he would make arrangements and would let me know. I have as yet received no communication from him. This gentleman can heal "absently," while lying on his back in his own bed; healed a patient ill seven years whom he had never seen, etc. There is no dispensary record at the hospital mentioned by this subject.

CASE IX.—A woman about forty years of age. Parents living; father's history detailed in Case XI. One of six children, four of whom died between the ages of twenty-three and thirty-four; these four were healthy until they grew up, and then lungs, stomach or bowels seemed to be "consuming away"; all had cough and stomach trouble. One brother had "water on the chest"; a sister attended him, "and the mental pictures taken from him brought on her sickness." Had measles and whooping cough. In childhood she squinted. While asleep had to be watched constantly; breath would come short and she would bound out of bed. Dr. A. (R., now deceased) told mother it was beginning of epilepsy. Had had trouble with eyesight; myopia was discovered at the age of fourteen. Dr. B. (R) said she had malformation of one eye and that she would have to wear glasses for about thirteen years, but she would not, and did not wear them. Had had considerable stomach trouble accompanied by sick headache, vomiting, nausea, diarrhea, etc. Menses came on at twelfth year; amenorrhea occurred frequently. Was married at twenty-three. Horrible nausea before and after marriage. Was well and happy through first pregnancy. Birth of child uneventful. Afterward application to cervix, etc. After birth the old stomach symptoms returned and during two or three days after each menstrual period she retained nothing and vomited blood and mucus. Had never taken opium or bromids. Once Dr. C. (H., now deceased) prescribed an "absinthe drip." She was to take half an hour in consuming it. Took this, and the top of her head was numb; but she had no pain and was able to go about. Took this but once, and would not repeat the dose, feeling that if this intoxicant would relieve her she would have to take it always. About this time she had also kidney and bladder trouble.

About twelve years ago saw a Christian Scientist. After some treatment she forgot all about her eye troubles. The first day her "healer" saw her she assured her this trouble was mental. That night she ate three strawberry-jam tarts, without ill effect. Then she threw away all her drugs. Three days after she ate five tarts without vomiting and slept like a baby; she woke up next morning feeling well. After this for three months she "simply gorged." One day she ate apples, Roquefort cheese and cake, the next morning after which she had headache. Then she was a long time ill and had much distress. Was a year in Christian Science before being thoroughly healed. For eleven years she has had neither physician nor medicines, with the following exceptions: Eight years ago a boy was born. Her "healer" stood beside her bed, but Dr. D. (R.), who was called in, was the accoucheur. He put in some stitches, which he removed about a week later. He made three visits during her confinement. Twenty minutes after the birth she was sitting up and eating a hearty dinner. In three days she was up and walking about her rooms. One week later she went to a dinner-party in full evening dress. Did not want to nurse this baby and the breast was bound up without applications. Three days later her breasts were hard, like stones. She had a thorough movement of the bowels, and then her milk flowed like water. Three weeks after this birth she sang at a concert. Since this birth her menses have been regular. Dr. D. corroborates statements made concerning his own work in this case.

[This subject is a "healer." "I have had gifts as a nurse and have therefore been able to ascertain signs of disease." Treated the subjects of Cases X and XI; among others she "cured" a case of tumor of the cheek which was almost the size of a walnut. After about three-weeks' treatment the tumor was the size of the head of a pin. Does not now know whereabouts of this man or how he can be reached.]

CASE X.—A man, about fifty years old. Said to have been cured of diphtheria by the subject of Case IX.

This man is supposed to have had at the time of his "healing," tonsillitis, quinzy, and malignant diphtheria. He had been for two weeks under the care of Dr. A. (H.), now deceased. It is alleged that on the last day of the doctor's attendance he looked into the patient's throat and saw a membrane on the tonsils and pharynx. The "healer" did not make an examination of the parts and therefore did not see any membrane. There is no record of a bacteriologic examination. Patient had fever [temperature not taken by "healer"]; could only whisper. Within an hour after the doctor's last visit the "healer" took up the treatment; this was at 5 P. M. In three hours patient took ice and raw oysters; within twelve hours he ate a hearty meal and was well. [This "healer" did not ascertain symptoms; she simply had been told the patient had diphtheria. "If the name of the disease is known to the healer it succumbs more quickly to his efforts; but a very spiritual "healer" can heal just as rapidly if the name of the disease is unknown to him."]

CASE XI.—A man, aged seventy-six years. Father of subject of Case IX., by whom, with the added efforts of another "healer," he is said to have been cured. His illness began in 1855, when something fell on his big toe. Inflammatory rheumatism resulted; there was pain with red and inflamed joints. The inflammation traveled from the injured toe to other joints. This pain seemed always worse about two o'clock in the morning. He suffered from rheumatism and gout from 1855 up to 1891 with more or less intensity. There were "calcareous" deposits about the knee-joints, so that the enlargements were noticable through the trousers. At various periods he was confined to his house for six months at a time. About 1880 he left the city. His mind was then off him-

self. When he went away he got better. Felt better when traveling about. On his travels forgot his gout and was happy. At one time he went to the Hot Springs; for the first five weeks there he felt good; after that he felt as bad as ever. He had tried electricity, springs, baths, etc. He took a number of drugs, among them McMunn's elixir of opium; from 1885 to 1891 he took enormous quantities of Blair's pills. During these years he had many physicians; he could not refer me to any of these, not being able to recall their names. Two physicians, Drs. A. and B. (both R.) treated him at one time for kidney trouble, but they did not see or examine his "calcareous" deposits.

In January, 1892, he took up Christian Science; at first he was not improved; he attributes this to the fact that he had no faith in Christian Science at that time. Latterly he did believe in it after which his improvement was rapid and he soon became well his "calcareous" deposits disappearing. Soon after taking the treatment he had a "chemicalization" and became worse. Then he became progressively better. At first his daughter treated him, without much success; then she called in another "healer" to help her, after which he became well.

Dr. A. and B. are associated, Dr. A. being the senior. Dr. A. does not recall this subject. A history of the man is published in a Christian-Science tract as a "remarkable experience of one cured through Christian Science." Among a number of statements printed in this tract is this: "I had up to that time employed the most eminent physicians." Concerning the names of these, or any one of these physicians, except as mentioned above, his memory is now hopelessly defective.

CASE XII.—A lawyer, aged about fifty years. From youth up had a cold in the head and most intense pain all the time. Never could put hand to anything cold like marble, otherwise cold in the head would result. Finally it got so bad he "*nearly* put a revolver to his head for the purpose of shooting the top of his head off." Went South seven years because of this catarrh. This was twenty years ago; in the warmer climate his catarrh was better. Ten years ago went into Christian Science before which he had been treated by various physicians; gave the name of one who is now dead; would not give the names of any others. In Christian Science he was entirely healed of his catarrh in a week. It would occasionally return, and then he would "demonstrate" over it. Believes that catarrh is caused by different qualities of thought in different people. Treat the cause (using the term as referred to in Christian Science). What was the cause? In this case the original cause was sin. Has been well while in Christian Science.

This gentleman's wife is also a Christian Scientist. They are both "healers." "All Christian Scientists are healers." It was this lady who treated "absently" the deaf young woman with irregular menses before mentioned. When this lady was pregnant, her husband, the subject of this history, had the morning sickness, the vomiting and other symptoms due to pregnancy, of which symptoms the lady was free. This was the case while two children were in the womb, previous to their coming into Christian Science. Since they have been in Christian Science no children have been born to them; therefore it is impossible to judge if in Christian Science the husband would again have been in the condition recorded. There was a bond of sympathy between husband and wife, so that when one was ill the other was easily affected and distressed; such is not now the case.

CASE XIII.—A woman aged about fifty years. This subject preferred to write her "testimony," which is given verbatim:

"It is four years since I came into Christian Science; up to that time I had been a sufferer some twenty-eight years. I had had the advice of many of the best physicians. I had been in the ——— Hospital and one of the best sanatoriums of New York City, all without receiving the desired effect, my trouble being surgical. I was much discouraged. I was benefited but far from well; prostrated at one time for nine months, at another time five months, a perfect slave to nervine, my nervous system being down to the last degree. What I suffered tongue could not tell; in 1894 I was taken down to my bed; again my doctor thought it necessary to call a specialist. After consultation I learned that they differed in opinion; one thought if certain things were done at my time of life I would certainly pass out. The other thought if they were not done I would pass out.

"While in this confusion of mortal mind a Christian Scientist called to tell me what 'Science' had done for her; I told her to send me the book called "Science and Health, with Key to the Scriptures"; she did so. I began to read it; it so lifted me above all thought of doctors and material things that I said 'surely this is good, I will try it; if I do not succeed the sanatorium and doctors will be here just the same.' I then went to a Christian Scientist for treatment. In all this time I have taken no medicine; have been able to overcome all obstacles arising before me, my longest walk being one block; to-day I can walk twenty without fear, in fact I walk all day long around my home, performing my household duties. Please accept this as an expression of gratitude to Christian-Science healing, with the hope that others may receive a similar blessing."

Dr. A. (E.) her former family physician, and Dr. B. (R.) were referred to. Dr. A. states that he had been the family physician for many years. In his opinion the subject never had any really serious sickness. At one time she had a slight prolapse of the womb, for which a cup pessary had been prescribed. She feared her womb would protrude from the vulva. She was, as were all the family, of a very nervous temperament, and to this Dr. A. attributed most of her ills, which were, in his opinion, largely imaginary. Dr. B. states that the subject had complete laceration of the perineum, extending through he sphincter. This he closed and the operation was completely successful (she stated to me that Dr. B. had very decidedly helped her). Dr. B. considers her to have been afflicted with hysteria in a most intense form.

CASE XIV.—Actress, about twenty-eight years old.

Had all through life been troubled with headache, pain in the eyes, difficulty in reading, and dyspepsia, which was aggravated by the conditions of her professional life. She had a "tendency to consumption of the stomach." Was nervous and sleepless at night. At one time had rheumatism. Had had her eyes examined; astigmatism had been found and glasses had been prescribed. Had uterine trouble, for which she consulted Dr. A. (H.) and others; for this electricity had been applied. Since February, 1897, has been in Christian Science; ever since she has not used glasses and has been well.

[Dr. A. does not recall this case. An arrangement of the hair, *a la* Cleo de Merode, partially hides a slight strabismus, which Christian Science has not yet rectified.]

Case XV.—Actor, aged about thirty-five years, husband of the preceding. Went into Christian Science in February, 1897, before which he had dyspepsia which now never troubles him. Shortly after going into Christian Science he had a "chemicalization," during which he was in a very bad state indeed; he had "a very hard time of it." Has observed the following phenomenon: Before going into Christian Science he would of an afternoon drink a great deal of whisky, and he found that if he would take acid phosphate after drinking he would not feel any ill effects from the alcohol. One afternoon after becoming a Christian Scientist he, as before, took a great deal of whisky. Then he concluded to try an experiment; he would take acid phosphate, but with a distinct intention of taking it *as a drug;* this he did and became, in consequence, very ill indeed. This result he attributes to the fact that he took the phosphate as medicine.

Case XVI.—Artist, aged thirty-seven years. Had diphtheria and scarlet fever in youth. Had dyspepsia. Suffered from supra-orbital headache, nausea, and vomiting. Eleven years ago eyes were examined by Dr. A. (H.). Had formerly been easily fatigued. Ten years ago went into Christian Science, at which time he discontinued the use of glasses. Suffered four years with headache, nausea, etc., but was determined not to wear glasses. During these four years he went to different "healers," who did not help him. Finally he found one who healed him. During the last six years he has never been ill, and during the last ten years he has not worn glasses. His eyes do not hurt him, although he uses them constantly for painting, etc.

Dr. A. writes: "He first consulted me September 2, 1885, complaining of trouble with his eyes at both near and distant vision, seeing double at times. What so-called reflex symptoms he complained of I cannot now say, but I have no doubt they were many. There was evidently spasm of accommodation present. I used atropin and on examination under its influence found the following correction:

R. + 1.25 D sp. c. — 1. D cy. axis 15° = $\frac{5}{5}$.
L. + 1.50 D cy. axis 75° = $\frac{5}{5}$.

September 3, 1885, ordered:

R + 0.25 D sp. c. — 1.25 D cy. axis 15° $\frac{5}{5}$.
L. — 0.50 D sp. c. + 1 D cy. axis 75° $\frac{5}{5}$.

"This was as near as I could get him to accept the correction as found under the drops. At the time he said that this correction was perfectly satisfactory, though I assured him it was not to me, as it showed too much evidence of spasm, but under the circumstances I would order it and he must keep himself under observation. This he did not do. I next saw him professionally on September 7, 1889, and he reported his eyes as bad as ever. I then made an examination and found he accepted:

R. — 1.50 D cy. axis 180° = $\frac{5}{5}$.
L. + 0.50 D sp. — 1.75 D cy. axis 5 = $\frac{5}{5}$.

"As this did not compare with any of the previous tests I asked permission to use homatropin; this was refused and whether I ordered the glasses found acceptable in the last test or not I cannot say, but think not. My professional connection with Mr. X. has been but limited and that most unsatisfactory as I was never able to follow up the case as I desired.

"Mr. X. always struck me as being a person of a highly sensitive, nervous organization with very keen perceptive faculties, easily influenced by his present surroundings whatever they might be. I am not surprised that he has become a convert to Christian Science as his temperament would seem to be just such a one as would naturally drift into any new cult or fad, and the more easily so in his case from the fact that his sister in this city is a recognized high priestess, as it were, in that sect here."

The doctor knows the subject well outside of professional relations. Refused to have his eyes retested. Has odd mannerisms. Has a colorless, grayish-hued complexion, a flabby and moist hand and a feminine voice.

Case XVII.—Civil engineer, about thirty years old. Father had dandruff; became bald at the age of thirty-five. Had dandruff, "eczema" of scalp, ears, and on chest. Was losing hair rapidly. Feared baldness. Used to saturate his hair with lotions, salves, etc. Two years ago went into Christian Science. Gave up the use of lotions and ointments. Has not made any topical applications since. Simply brushes his hair. Treated five times by a "healer," going every other day. For two years has not had dandruff, loss of hair or "eczema." Has now a good head of hair.

[A contribution to the question of the inadvisability of using topical applications in threatened alopecia.]

(To be Continued.)

THERAPEUTIC NOTES.

Dry Treatment of Suppurative Otitis Media.—Goldstein (*Laryngoscope*, December, 1898) says that in most cases of suppurative inflammation of the middle ear, the dry treatment gives better results than treatment by irrigations and wet dressings. A tuft of cotton on a probe will absorb the secretion and cleanse the canal more effectually than a stream of fluid. When the membrane is perforated, as is usually the case, there is also the dan-

ger that a stream will convey the infection to a still healthy part, for instance, the mastoid cells. If the ear is treated dry, the formation of granulation tissue is also reduced to a minimum. If the opening in the membrane is very small, a Eustachian catheter may be used with a Globe nebulizer, containing a mixture of iodid, 3 grains; carbolic acid, 4 grains; and benzoinol, 1 ounce. By steady inflation the remaining secretion may be forced out through the drum membrane, and at the same time an application of antiseptic substances is made to the mucous lining of the middle ear. A concentrated solution of peroxid of hydrogen is of advantage in seeking out pockets inaccessible to the syringe and the cotton-mop. A medicine-dropper is used for its introduction, and by shifting the head of the patient, the peroxid can be made to come into contact with any portion of the middle ear which it is desired to reach. Emphasis is placed upon the necessity of keeping the nasopharynx in a clean and aseptic state in the treatment of suppurative otitis media.

Treatment of Baldness by Simple Aseptic Irritation.—JACQUET (*La Presse Med.*, December 10, 1898) says that while all dermatologists agree that cutaneous irritation is the first principle in the treatment of baldness, there is no agreement as to the amount of irritation which will give the best result. Permanent irritation is certainly not as good as a slight irritation which can be renewed at will. By this manner one gets the advantage of the vascular dilatation, the hyperthermia, which favors the papillary vitality, and avoids the ultimate slowing of the blood stream, and the leucocytic migration and interstitial exudation which takes place if the irritation is continued to the point of inflammation. Transitory hyperemia can best be caused by repeated slapping of the scalp with a sharp brush, made of good pig's bristles. The brush should be applied all over the bald area, and along the margins of the hair. In a few seconds the scalp will become red and pulsating, a condition which will last for half an hour or more. The treatment should be repeated morning and night. In his own case Jacquet caused the hair to grow again on a bald spot in his beard as large a two-franc piece, by making applications of the brush in the manner described, twice a day for four months. In other cases he has made more frequent applications, five or six a day, and has attained more rapid results. To keep the brush in an aseptic condition, he plunges it each time before it is used, into the following solution:

Alcohol		℥ iv
Ol. ricini		℥ i
Hydrarg. chlor. corros.		gr. ij
Ext. opoponacis, Tinct. cocci cact.	aa	gtt. xxx.

The brush is shaken as dry as possible before it is applied. If a brush is used which is made of wires with a rubber back, it will be very easy to keep it aseptic by this solution.

Fetid Breath and Its Treatment by Carbonate of Creasote.—BAYER (*Rev. de Therap.*, December 15, 1898) believes that chronic affections of the nasopharynx are the cause of fetid breath in obstinate cases. For instance, in women who are annoyed by bad breath at the period of menstruation one can always make out at such times a congestion of the nasopharynx with an increase of its secretion. The best treatment is the intratracheal injection of carbonate of creasote. It is better to use the carbonate than the pure creasote as the latter sometimes provokes spasms of suffocation, whereas the carbonate of creasote, slightly warmed, may be injected by the ordinary intralaryngeal syringe without unpleasant effects, in quantities of .5 to 1.5 c.c. (15 to 45 drops). Such an injection does not produce irritation, and the relief is often so marked that there is no occasion to repeat it.

Treatment of Varicocele by Subcutaneous Ligature.—NIMIER (*Rev. de Chir.*, October, 1898) suggests the following simple method of treating a varicocele: The patient lies upon his back and the testicles are held well up against the pubic bone by an assistant, the redundant scrotum being spread out like an apron before the thighs. A Reverdian needle is thrust into the scrotum from the left side, and passes across its whole breadth, just beneath the skin anteriorly until it emerges at the right side. It is threaded with silk and withdrawn. It is then introduced into the same puncture on the left side, and passes along the posterier wall until it emerges through the puncture at the right side. Here the other end of the silk thread is passed through its eye and the needle is again withdrawn. The silk thread then surrounds the whole scrotum subcutaneously. It is drawn tight and tied, the knot being pushed through the opening in the skin. A little cotton and a suspensory bandage constitute the dressing. The reaction is slight, but it is better for the patient to remain in bed for one week. The writer insists upon the importance of strict asepsis.

Rebellious Constipation Cured by Massage of the Gall-Bladder.—BERNE (*Jour. des Practiciens*, No. 47, 1898) has found that in certain patients massage of the gall-bladder gives almost as good results in overcoming constipation as massage of the whole abdomen. In some patients massage of the whole abdomen is contraindicated, as in the presence of an abdominal tumor, or an excess of adipose tissue, or a particularly sensitive skin, as well as in young women in whom the close association of the pelvic and abdominal organs, make general abdominal massage undesirable. Moreover, constipation is often due to sluggishness of the biliary flow, and massage over the gall-bladder corrects this. The operator sits at the right side of his patient, and makes deep, gentle plunges with his fingers from below the false ribs upward toward the under surface of the liver. Ten minutes of this exercise, three hours after the midday meal, and repeated daily for ten or twelve days, will suffice to bring about a normal passage without the help of drugs. From thirty to forty days are required to effect a permanent cure. The passage of bile into the intestine is shown by the restoration of the normal color of the stools, and the disappearance of their fetid odor, while the body of the patient regains its natural embonpoint.

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SATURDAY, FEBRUARY 4, 1899.

CANNED BEEF FOR THE ARMY.

There has been a great deal of space devoted during the past week in the daily papers to the question of bad canned beef supplied the troops during the recent campaign. A tendency is manifest to confuse two aspects of the question that it is very necessary should be kept thoroughly distinct. Most modern scientific authorities are agreed that it is possible to preserve meat by canning, and yet retain practically all its nutritive value; at least, there are enough good authorities of this opinion to perfectly justify the Army Medical Department in its endorsement of the orders of the commissary department for such supplies for the soldiers whenever the better and more satisfactory fresh meat could not be obtained. The household consumption of immense quantities of American canned meats in this country and in Europe during the last ten years testifies to the value and palatableness of the article when it is properly prepared and preserved.

Here comes in, however, the second aspect of the question of the bad canned beef supplied the army, the aspect of the question that the testimony of officers and men shows sadly to need investigation. The evidence goes to show that many of the cans became swollen during transportation, evidently from the pressure of gases of decomposition; further, that the meat was even in other cans found tainted (to put it mildly) when opened; and, finally, that many of the cans were improperly filled, fat, gristle, and a tallow-like substance forming the larger part of the contents. These facts go to show, not that canned beef as such is bad, but that the articles supplied the Government for the troops were badly packed, imperfectly preserved, certain necessary precautions for their preservation being neglected, and that the quality of the product was allowed to deteriorate from its usual standard in the hurry of executing a large contract for the Government. There was somewhere either a lack of proper inspection and a condemnable failure to test the product before its acceptance, or there was deliberate fraud by the delivery of an article inferior to that contracted for, or collusion in its acceptance.

The question thus put calls for the most searching investigation and no trouble or expense should be spared to properly place the responsibility. What is to be investigated is not whether canned beef as ordinarily put up is a proper food or not; that question was decided long ago scientifically and practically. Certain phases of the present agitation by failing to bring out this fact are liable to do a great deal of harm to a great and very valuable American industry, while at the same time helping to divert attention from the criminal neglect or deliberate fraud that led to the furnishing of this particular lot of ill-preserved, unsuitable canned material to the army. As this heedless or fraudulent connivance was the source of a great deal of suffering and an undoubted cause of no little sickness among the troops, it deserves the most thorough investigation. No pains should be spared to brand publicly and indelibly the parties who, for what is evidently sordid reasons, seriously endangered the health of the troops; nothing should be left undone to mete out to them the punishment they so richly deserve.

INHUMANITY AT THE VIENNA GENERAL HOSPITAL.

The Philadelphia daily papers and some of their New York contemporaries contain lengthy comments and discussions as to the way in which patients are treated in the General Hospital at Vienna. The

discussion was aroused by some remarks made on the subject at the sessions of the Pennsylvania Anti-vivisection Society which was holding its annual meeting in Philadelphia. A prominent member of the society stated that the hospital was really a clinical laboratory in which often unjustifiable experiments were carried out on the poor, defenceless patients. She even stated that she had been informed by a young American physician who had studied in Vienna, that if a case was particularly interesting or especially inexplicable, the patient was *retained* in the hospital until the termination of the case in order to secure an autopsy, the insinuation being that not overmuch medical care was exerted to delay the termination of the case or put off too long the post-mortem examination which might prove of precious value to scientific medicine.

A saving sense of humor is a most precious thing in life. It is evidently sadly lacking in certain at least of our antivivsectionist friends if they took this last story seriously. It is a well-worn joke among American students at Vienna who delight in relating it to humorless Austrian friends and to gullible newly arrived Americans with the purpose of observing the horror produced by the canard. We have heard it told in America, but seldom saw it fail of its real purpose —that of a joke by exaggeration so dear to the American heart. It is typical of the antivivisectionists that they should be taken in by it, for the whole of the antivivisection movement is characterized by a failure to see things in their proper proportions; by an endowment of animals with a sensitiveness to pain that belong only to neurotic hyperesthetic individuals of a genus much higher in the scale of evolution; by a failure to realize scientific advances because they happen to have been made by methods that are opposed to their eminently narrow views.

The American medical-students' joke is perhaps not in the best of taste, but when people are so ready to be taken in what genuine American could resist the temptation "to take a rise out of them"? Meantime the good name of the great hospital at Vienna, the source of so much that is best in modern scientific pathology and diagnosis is involved and the humanity of her great professors and investigators is questioned. We think that most Americans on their first arrival in Vienna are surprised and somewhat shocked by the treatment of patients at the hospitals, but so are they shocked when they come to realize the general treatment accorded the lower classes in all the circumstances of life in which they come in contact with those above them in social status. It is this condition of things and not any over ardent zeal for clinical experimentation that leads to the treatment of patients, that an American is at first apt to resent. The proof of this lies in that fact that while considerably less than one-half of the General Hospital is given up to clinics that are used for teaching purposes, there is no special desire on the part of patients as a rule, to get into the non-teaching departments where there is practically no clinical experimentation. Personally we know of patients who had been transferred at their own request from the non-teaching department to the wards of clinical professors at the university because they thought they would receive better medical care.

Much of this complaint about the treatment of patients at Vienna is founded on inexperience of national differences of feeling in personal relations. It is the expression of that false feeling that other people must do as we do or they are indefensibly wrong, and finally it is a putting into other people, as the antivivisectionists do with animals, of certain finer feelings of sensitiveness that they are not possessed of at all. The great teachers of medicine at Vienna for the last half century, who have accomplished so much for the good of humanity by their investigations, do not deserve the aspersion thus cast upon them without a proper knowledge of the facts. The present heads of the great medical and surgical clinics at Vienna are personally some of the kindliest men in the medical profession. Their names and characters are ample justification that there has been and will be no abuse at Vienna of the sacred privileges that bind physician to patient in all ranks of life all over the world.

PHAGOCYTES IN A NEW ROLE.

METCHNIKOFF'S theory of phagocytosis has always been a very captivating one This question of certain cells possessed of a sort of automatism, going out of their own volition, as it were, to meet the enemies of their host, and, if necessary, to lay down their lives in his defense, has something in it that

wonderfully attracts human interest. At times the importance of the theory has seemed to be waning, but to those who are in touch with Metchnikoff's work and that of the brilliant school of young experimental pathologists he has gathered around him at the Pasteur Institute, the question has always seemed a vital one. It is only necessary to have heard Metchnikoff himself upon the subject or to have followed the ingenious experiments that have been employed during recent years in showing the fallaciousness of certain objections to the theory, to realize that phagocytosis is and will remain an important issue in the pathology of inflammation so long as our studies of that subject are carried on from the present standpoint.

Some recent, brilliant, experimental work seems to show the phagocytes in a new rôle, and one that brings them much closer in touch with practical medicine, because it shows them as aids in medicinal therapeutics. Some time ago Kobert, at Dorpat, showed that when the salts of silver and iron are used internally, besides passing through the intestinal mucosa into the blood- and lymph-streams by diffusion, a certain amount of these substances is taken up by leucocytes in the walls of the intestines and carried here and there through the system. Metchnikoff has now been able to confirm these observations, especially as regards the absorption and distribution through the system of the salts of mercury. He has been able to demonstrate the presence of portions of the mercuric salts employed in the observations in leucocytes obtained from peripheral parts of the organism. This function of carrying the salts of the metals is demonstrable especially for the polynuclear and mononuclear leucocytes, cells of mesodermic origin, which are just the ones that englobe and destroy microbes.

The importance of this discovery can scarcely be be overestimated. The salts of the metals are among the most efficient therapeutic drugs we have. Their action and mode of absorption have always been rather mysterious. Iron, though generally acknowledged to be a very useful drug, has had a most checkered therapeutic career, because of uncertainty as to the mode of its absorption and the manner in which it acts. This new discovery opens up a vista of possible revolution of our knowledge of drug absorption. It introduces a biologic factor where only chemical and physical forces were previously thought to be at work. It cannot fail to be pregnant with suggestion for workers in the two sciences of therapeutics and physiology.

GASTRO-ENTERIC DISEASE IN WOMEN.

The great majority of women in the artificial environment of civilized life receive a considerable amount of treatment at the hands of the gynecologist. Diseases of women comprise a specialty as firmly established in the minds of the laity as in the estimation of the medical profession. Thus, the natural tendency is to concentrate the attention upon the genital organs and to regard as of secondary importance any symptoms pointing to other organs, unless occurring under circumstances that obviously free the pelvic viscera from all responsibility.

The time is not remote since morning sickness and hyperemesis gravidarum were associated absolutely with uterine changes. There was no thought of careful examination as to the state of the stomach, none of rational therapeutics of the gastric disorder. If not too troublesome, it was passed over as a mere physiologic occurrence. If it became more serious, one remedy after another was used empirically—or rather in spite of empiric probability of its uselessness—without the least idea that the pregnant woman could have a gastric catarrh or a functional disturbance of digestion which required diagnosis *per se*. If the symptoms became extreme and nutrition failed, there was still no thought of examining and of treating the stomach—unless the indiscriminate administration of drugs be dignified with the name—but counsel was called to consider the advisability of interrupting pregnancy.

Similarly, in the case of gynecologic patients, emaciation, constipation, or diarrhea, loss of appetite, nausea, vomiting, pyrosis, intestinal flatulence, etc., were often mentioned but, apparently, without conceiving that they might mark the essential or a coexisting but independent trouble.

Within the last few years writers from the standpoint of internal medicine, or from that of the newer digestive specialty, have raised their voice against the old saw that "The womb is the woman"; they have pleaded for a careful examination of the state of digestion before relegating all kinds and degrees

of digestive failure to the symptomatology of a pregnant uterus, a linear cicatrix of the cervix, a slight exaggeration of the normal secretion of the vagina, or virginal anteflexion of the uterus. More recently still, a protest has been raised against the practice of performing an exploratory celiotomy without first having exhausted the diagnostic powers of the clinician.

In a recent volume of *Archives Générales de Médecine*, Dr. Paul Delbet reports an extremely interesting case of a woman aged twenty-three, who had borne two children and who had, subsequently to the second delivery, developed a series of gastric symptoms marked especially by vomiting and emaciation. Practically, the only gynecologic symptom was a moderate leucorrhea, but the uterus could be felt diverted to the right and there was a mass as large as two fists in the left side of the pelvis. The only other examination made was an external investigation of the abdomen which resulted negatively. After several months' local treatment, first by another physician then by Delbet himself, an operation was proposed and agreed to. On opening the abdomen, the stomach was found prolapsed and dilated, reaching nearly to Poupart's ligament and the pubes, and held in this position by adhesions of the great omentum, which latter constituted the pelvic mass. After loosening the adhesions and tying off the rolled up omentum, the stomach rose a few centimeters and, ultimately, regained its normal position and size.

There is only one particular in which we could criticise Delbet—not to mention the error of diagnosis and early therapy which he himself frankly admits. Certainly, no one could be expected to distinguish by vaginal touch an omentum from one of the tumors which might reasonably be expected in the pelvis. It is only reasonable to expect, however, that the routine external examination of the abdomen should have revealed so enormously dilated and extensively displaced a stomach. Succussion, percussion, auscultation, even without the introduction of air through the tube, or water by the normal process of swallowing, auscultatory percussion, perhaps, mere palpation and inspection—any one of these methods might, and any two or three of them should be sufficient to locate the stomach, unless in a patient with enormously thick abdominal walls, which was not the case in this instance. By the aid of combined manipulation, using the tube, the solid sound, the endogastric electric light or some acoustic contrivance within the stomach, the diagnosis could have been still further aided.

"But," says some abdominal surgeon, "what would have been the use of making a diagnosis? The stomach could not have been freed from its adhesions nor the omentum and the diseased ovary removed without opening the abdomen." We are not setting up a man of straw to carry on an imaginary sophistry, for just this argument has been used by many surgeons, in behalf of the liberal use of exploratory incision. Our reply is this: except the elimination of gross errors as regards asepsis, no one factor has so greatly diminished the mortality from celiotomy as rapidity in operating and the avoidance of exposure and handling of serous structures. It is all wrong to wait till the abdomen is opened before making a serious attempt at an accurate diagnosis. There must remain cases in which, in spite of every care, the abdominal incision will reveal some surprise; there will be cases in which the indication for immediate operation will prevent an elaborate study of the conditions present. But, in the average abdominal case, there is the same need of the service of a skilled diagnostician as of a skilled surgeon. Rarely, the same man may combine these qualifications, usually life is too short and the medical art too complicated for any one human intellect to excel in more than one particular. Often, under the best circumstances, the surgeon will be called upon to revise a diagnosis in the face of organs exposed to naked-eye inspection, and to adapt his maneuvers according as complications arise. But this, by no means, relieves him of the responsibility of having studied the case in advance and of forming carefully and thoroughly well-matured plans of interference.

ECHOES AND NEWS.

A Chinese Physician in Indiana.—A Chinese physician recently applied for registration in Indiana, presenting a Chinese diploma.

Twenty-six Thousand Patients, All Tailors.—One of the lodges in Berlin, that of the tailors, has 26,000 members, and its own exclusive doctors. What an opportunity to study occupation neuroses!

Officers of the New York Medical League.—At the recent annual meeting of this organization Drs. J. E. Janvrin, J. C. Schminke, and J. J. Noll were reelected president, secretary, and treasurer respectively.

The New York County Medical Association.—At the annual meeting held on January 16th, at Mott Memorial Hall, Dr. Frederick Holme Wiggin was elected president, Dr. Parker Syms first vice-president, and Edwin Gaillard Mason second vice-president.

The American Neurological Association.—The next meeting of this Association will be held at Atlantic City, N. J., June 14, 15, and 16, 1899. Dr. J. Hendrie Lloyd of Philadelphia is president, and Dr. G. M. Hammond of New York, secretary and treasurer.

The American Orthopedic Association.—The thirteenth annual meeting of this Association will be held at the New York Academy of Medicine, May 31 and June 1 and 2, 1899. Dr. W. R. Townsend of New York is president, and Dr. John Ridlon of Chicago, secretary.

Students in Berlin University.—The attendance at the Berlin University is greater this winter than ever before in its history. There are at present 6151 matriculates as against 5606 last winter, and 4648 in the last summer semester. The medical department has its fair share of these, 1311 being registered under its faculty.

Hospitals for Consumptives in New York State.—On January 25th a bill was introduced in the Assembly at Albany which will allow cities of the first class to establish, equip, and maintain outside of their corporate limits, and with the approval of the State Board of Health, hospitals for the regular treatment of consumptives.

Four Suicides in One Family.—Seven years ago Mrs. I. L. Corwin of Newburgh, N. Y., was found dead in her bath-room, having cut her throat. A year after, her husband committed suicide by shooting himself in the head; a year after this their oldest son hanged himself, and on January 15th their daughter, Mrs. A. M. Weed, died from taking a poisonous drug, supposed to be carbolic acid.

Anti-Tuberculosis Bill.—A bill has been introduced in the Senate at Albany requiring all cattle brought into the State to have had a test thirty days previous at the hands of a State official who is empowered to furnish a written permit to import them. All transportation companies are forbidden to carry cattle without such certificate and permit. Violation of the law is punishable by fines.

Smallpox at Norfolk, Va.—The smallpox situation at Norfolk has improved greatly. The compulsory vaccination order is being rigidly enforced, the city has been thoroughly cleansed and the disease is well under control. Nearly 75.000 people have been vaccinated. By order of Surgeon-General Wyman officers of the Marine Hospital Service have been examining every passenger leaving the city.

Professor Edgar Delivers an Address in Philadelphia.—Upon the invitation of Professor Hirst, Dr. J. Clifton Edgar, Professor of Obstetrics in the Medical School of Cornell University, delivered an address before the students of the University of Pennsylvania, on the evening of January 19th. This was the first of a series of annual lectures, to be delivered under the auspices of the Barton-Cooke-Hirst Obstetrical Society by eminent obstetricians of other colleges.

A New Medical Journal.—With the beginning of the year 1899 there has been an extraordinary number of new medical journals launched upon the crowded and uncertain sea of medical literature. The latest is *Obstetrics*, edited by Dr. Edward A. Ayres, Professor of Obstetrics in the New York Polyclinic Medical School and Hospital, and published by the Van Publishing Company, New York. *Obstetrics* is a companion journal to *Pediatrics*, published by the same company, and appearing monthly. A pronounced feature is a complete review of current obstetric literature.

Made an M.D. by Mail.—Frank K. Irving of Passaic, N. J., was on January 18th tried in the Court of Quarter Sessions at Paterson for practising medicine unlawfully and was convicted. He had failed to file for registration in the office of the county clerk a certificate from the State Board of Medical Examiners. In his defense Irving said that he was a graduate of the National Electro-Therapeutical College of Lima, Ohio. He admitted that he had not attended any college of medicine but had studied medicine by means of the correspondence method for a period of four months. He was then examined by mail, after which he was graduated.

Incompetent Surgical Service.—A judicial decision recently given in Indiana states clearly the obligations of a railroad company which undertakes to provide hospital treatment for its employees who are injured while in its service. The Wabash Railway retains a part of the salaries of its employees for the maintenance of a hospital and the fees of surgeons employed to treat these employees. The plaintiff, a fireman, had his foot crushed while at work. The surgeon amputated. It was proved that the surgeon employed by the company was drunk while attending the plaintiff, and that the amputation was not necessary. A verdict was, therefore, given for the plaintiff to the amount of $6500.

Christian Science.—An address upon "Christian Science, a Sociological Study," delivered by Dr. Charles A. L. Reed, before the Northwestern Ohio Medical Association at Lima, Ohio, December 8, 1898, has been published in book form at the request of the Association. The object of publication is to place the address in such form that it may be available at small expense to physicians, clergymen, educators, and others for distribution in their respective communities. It is an argumentative discussion of the subject, and to a certain degree supplements the information presented in the MEDICAL NEWS' investigation of this cult now being published in our current issues.

An American Bon Mot in Vienna.—One of Pean's followers, a young surgeon in Paris, performed laparotomy

upon a woman. She did not recover promptly, and a second laparotomy was proposed, but to this the patient would not consent. Later she went to a hospital, and was operated upon by Marchand five months after the first operation. To his astonishment, he removed from the peritoneal cavity a metal Hegar's dilator, which had been left in the abdomen by the first operator. In commenting upon this case a Vienna editor says: "Now we see the force of the advice given by an American surgeon who recommended in order to be sure that nothing was left in the abdomen, the counting not only of the sponges and instruments, but of the assistants as well."

Obituary.—Dr. Charles Fayette Taylor died at Los Angeles, Cal., on January 25th, from pneumonia complicating grip. He had been an invalid fifteen years. Dr. Taylor was born in Williston, Vt., April 25, 1827. He was graduated from the University of Vermont in 1856, and soon after located in New York City, devoting himself mainly to deformities. It is chiefly due to his untiring energy and faithful services that the New York Orthopedic Dispensary and Hospital was established. He was eminent as an orthopedic surgeon, and invented a number of valuable surgical appliances. He wrote a number of treatises on his specialty. He was a Fellow of the New York Academy of Medicine, a member of the American Orthopedic Association, the New York County Medical Society, and a corresponding member of the Imperial Vienna Medical Society.

Deaths under Unusual Circumstances.—On January 25th two physicians called upon Mrs. Kate Witmann, in Weehawken, N. J., having been engaged to perform an operation upon her. While preparations were making, Mrs. Witmann retired; when the physicians entered her room a few minutes later they found her dead.—Frank Pinz, a resident of New York City, had been a sufferer from rheumatism for four months; during this time the pain had been very great. On January 26th the shop in which Pinz was employed being warm, a fellow workman opened a window in front of his bench. Pinz jumped out and was instantly killed.—Mr. and Mrs. Reuter, of Brooklyn, died on January 26th, within three-quarters of an hour of each other, the physicians said, of apoplexy. Mrs. Reuter died first; just before dying, Mr. Reuter said "My wife is dead; my heart is broken."

Magnetic Healers in France.—The position of magnetic healers in France will soon be definitely decided by the Court of Cassation, an appeal having been made to the Criminal Chamber of that court, from the Court of Angers. In 1894 the latter court decided that a magnetic healer, as long as he confined himself to the practice of the healing art in accordance with his own ideas, was not breaking the law, which says that no one shall practice medicine except a duly licensed graduate of medicine. In 1893 the tribunal of the Seine took a broader view of the law, and found guilty of its infringement a magnetic healer who was practising medicine in his own way on the ground that the practice of medicine was intended by the act to mean not only the administration of drugs, but any measures resorted to which were designed to heal the patient. The judge who wrote the decision said: "If these magnetic treatments have no therapeutic effects, they may keep a patient from seeking medical advice in time to save him, while if they do produce therapeutic effects, they ought to be under the control of thoroughly competent persons." The decision of the highest court of the country will be awaited with interest.

CORRESPONDENCE.

THE ANNUAL REPORT OF THE LOOMIS SANITARIUM—DR. STUBBERT'S REPLY TO A CRITIC.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—In the MEDICAL NEWS of January 7, 1899, appeared a review of the Annual Report of work done at the Loomis Sanitarium for Tuberculosis at Liberty, New York.

Our duty in the administration of such sanatoria is to present in as concise a form as possible the results attained, thus giving to the medical profession the experience gained in peculiarly good clinical fields. With this object in view the facts in the report were offered as usual in statistical form. The writer was, therefore, surprised to see the critic first set his lance against statistics, especially when, he later on indirectly quotes statistics in support of a proposition of his own. We quite agree with the critic that "Very few men are able to handle statistics," being familiar, as we are, with the usual methods in vogue in hospitals. Data recorded by constantly changing junior members of a house staff must of necessity render statistics built upon such spasmodically constructed foundations inaccurate. At the Loomis Sanitarium the writing of all histories and the compiling therefrom of all statistics, is entrusted to *one qualified person* who has been with the institution from the day of its opening, and than whom, I do not hesitate to assert, no more competent and trustworthy statistician can be found.

The critic objects to the term *cured*. Until this year we used the term "apparently cured" but changed it for the former at the request of certain members of the Medical Board. We must differ with the critic in the opinion that there is no just criterion of cure other than *time*. A physician in private practice draws his conclusions from patients seen at intervals, *not* having them under constant observation, as has the physician in a sanitarium. Moreover, he has not the means of making as careful tests; therefore, his conclusions certainly cannot be more accurate. Reasoning by analogy it is fair to assume that a patient of 1896, having through progressive stages arrived at the condition of "apparently cured" and having maintained that condition since, notwithstanding his return to his former environment and work, a patient of 1898, having progressed through the same stages to the same condition, can be fairly assumed to be cured. In the way of positive evidence of a "cure" we also maintain that the disappearance of all physical signs of disease, of all rational symptoms, and finally of even the

shadow cast upon the fluoroscope should be sufficient evidence to satisfy the most hypercritical. Apropos of this statement we must inflict, with all due apology, additional statistics:

Patients discharged cured from June 15, 1896, to November 1, 1897, 19.

The number of whom we have lost trace, 7.

The number who may be fairly assumed to have remained cured (in the absence of contrary evidence), 19.

The number of whom we have positive evidence have remained cured, 12.

Total number discharged with disease arrested, 14.

Number lost trace of, 8.

The number who may be fairly assumed to have remained in this condition (in the absence of contrary evidence), 12.

Number of whom we have positive evidence have remained in this condition, 4.

Number who have redeveloped the disease (as far as we know), 2.

Those that may be assumed to have remained cured, 100 per cent.

Those that may be assumed to have remained arrested, 86 per cent.

Of these two classes the number of males was 13.

The number of females was 20.

All of these cured and arrested patients have been away from the Sanitarium for periods extending over from 1 to 2½ years. All of the cured patients, with the exception of 3, have returned to their former work and environments. These three have entered the Nurses Training School of the Loomis Sanitarium, and have worked constantly from the time of their discharge; they have been called upon to work at irregular hours night and day, and have been allowed only the short vacation of the school. They have shown absolutely no signs of a return of their disease. So much for the critic's objection to lack of sufficient time being allowed to elapse, etc.

We will now give the number of patients discharged cured or arrested from the opening of the Sanitarium until November 1, 1898, all of whom have been away at least three months.

Number discharged cured from June 15, 1896, to November 1, 1898, 47.

Number of whom we have lost trace, 13.

Number who may be fairly assumed to have remained cured (in the absence of contrary evidence) 46, or 98 per cent.

Number of whom we have positive evidence have remained cured, 33, or 70 per cent.

Number who have redeveloped the disease (as far as we know), 1, or 2 per cent.

Of the arrested cases, numbering 25, 22, or 88 per cent., may be assumed to have remained in that condition, and 3, or 12 per cent., have redeveloped the disease. We have lost trace of 13, and have positive evidence that 9, or 36 per cent., have remained arrested cases.

The critic again says, "We must ask the director why he makes no distinction between male and female patients, for it is well known that phthisis is far more fatal in the female than in the male." We reply by challenging his statement. German statistics lately compiled show that the two sexes are about equally prone to succumb to the disease. Our experience tends to show that while the sedentary life of woman makes her more susceptible to infection, her condition allows her more promptly to place herself within proper environments for recovery of health, thus more than counterbalancing the handicap. The only just ground for giving a comparatively unfavorable prognosis to women would be the danger from child-bearing. The following statistics from the Loomis Sanitarium sustain the above statement:

Number of patients discharged cured and arrested from June, 1896, to November, 1898, 72:

Males, 29, or 40 per cent.

Females, 43, or 60 per cent.

Again, of the 77 patients discharged unimproved during this same period, 44, or 57 per cent., were males; 33, or 43 per cent., females.

To the objection raised that the term "discharged improved" is too indefinite, we will have to exercise our prerogative as a Yankee by replying with the question, "What can you suggest that is better?" If a patient, after being advanced somewhat on the road to recovery, is compelled by personal or financial reasons to return home, he must be classified as improved, since his condition has neither grown worse nor remained stationary.

The critic cannot understand the statement that absence of high winds is popularly supposed to be a desideratum in the location of abodes for consumptives. I venture to say that if he puts the question to all physicians in New York City, and 100 of his lay friends, a majority of the former and nearly all of the latter will reply "protected sites facing the south." Again, the critic says we do not state whether we have followed the 27 per cent. of cured patients under serum treatment since their departure from the Sanitarium. We know positively that 17 have remained in the condition described as "cured" and none to our knowledge have redeveloped the disease. All these 17 patients have been away from the Sanitarium for periods varying from 6 months to 1½ years.

Finally, we wish to state that of all our patients discharged cured, none have been compelled to seek other than their former homes and climates; all, with the exception of the three nurses above noted, have resumed and continued their former vocations, and to our knowledge only one has shown any further signs of tuberculosis.

J. Edward Stubbert, M.D.,
Physician in Charge.

Loomis Sanitarium for Consumptives,
Liberty, Sullivan County, N. Y.,
January 20, 1899.

Cinematograph Exhibitions of Surgical Operations.—The latest craze in Paris is for postprandial exhibitions of surgical operations by means of the cinemetograph. Upon a recent occasion the guests at one of these entertainments were roused to great indignation upon recognizing a distinguished lady of Paris as the subject.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

A YEAR'S RECORD OF TYPHOID FEVER IN PHILADELPHIA—THE ANTI-VIVISECTION SOCIETY'S MEETING—UNITED STATES QUARANTINE VESSEL "PROTECTOR"—PAPILLOMA OF THE OVARIES—POSSIBLE URINARY TEST FOR OBSTRUCTION OF THE PANCREATIC DUCT—SKIAGRAPHS OF DERMOID CYST AND CALCULUS—A MEDICAL SOCIETY'S LOSS—MEDICAL SOCIETY NOTES—PERSONAL.

PHILADELPHIA, January 31, 1899.

DR. J. HOWARD TAYLOR, Medical Inspector of the Board of Health, last week submitted his annual report, in which he draws attention to the enormous increase in the number of cases of typhoid fever which have occurred during the past year, notwithstanding the distribution by the board of circulars warning householders to boil all water used for drinking purposes. This record of 1898 is enough to arouse public condemnation of councilmen who continue to allow the city to suffer from this preventable disease by failing to remove a system whereby water is supplied which has received human excreta from all manner of people in every condition of ill-health.

It is hard to believe that in these days 4749 cases of typhoid fever can occur in any city of a civilized country with a population no larger than that of Philadelphia, a city well regulated in that there is comparatively little, if any, overcrowding or tenement life among the poor. This morbidity has never been approached during the past decade, and in only one year, 1889, has it exceeded 4000 cases, the general average for nine years, excluding 1889, being about 2700 cases per year. To the 4749 cases of this year must be added 1348 soldier patients who were brought to this city. When the mortality is considered, however, a satisfactory and decided decrease is to be found, for there were 639 deaths, which is a mortality of 10.48 per cent. Since the year 1890 a decreasing mortality has been constant, beginning with 21 per cent. in that year, 19 per cent. in 1891 and 1892, 18 per cent. in 1893, 16 per cent. in 1894 and 1896, 17 per cent. in 1895, and 13 per cent. in 1897.

The Anti-Vivisection Society of America held its annual meeting in this city on Friday, January 28th. The usual harangues were indulged in, and the proud boast made that $3947.33 had been collected during the past year, of which $1000 was raised by a fair held here last month, and $1000 was a legacy left by Helen B. French, eaving not quite $2000, which this valiant band collected. The total expenditures, however, would seem to prove this amount more than necessary, for only $874 was spent, leaving a balance of more than $3000. This hardly proves the truth of a statement by that champion of champions, Mrs. Caroline White, who implies in a recent letter to a medical journal that lack of money prevents the Society from turning its attention to the cruelties of shipment of cattle rather than to scientific vivisection. Dr. Albert Leffingwell seemed to be the only speaker at the meeting whose views were at all moderate. He said his aim had always been to restrict rather than abolish vivisection, though he regretted to say that physiologists and scientists had lately come to think that there should be no limits to experimentation. Reference was made to the anti-vivisection bill now before Congress, and members were asked to devote all their efforts to ensure its passage.

The balloting for officers resulted in the election of the following: Dr. Matthew Woods, president; three vice-presidents from Pennsylvania and nine from Philadelphia; Miss Adele Biddle, secretary; S. H. Thomas, treasurer; Mrs. Richard P. White, corresponding secretary, and Miss Elizabeth Somers, assistant secretary.

The United States quarantine vessel "Protector" left here for Havana on Saturday last. She carries two sulphur furnaces, steam ventilating fans, a large jacketed steam chamber, light formaldehyd generators, and bichlorid-of-mercury tanks. The "Protector" contains also eight baths and a number of rooms for isolation, etc. The vessel will be used for the disinfection of vessels leaving Havana for United States ports and will be under the supervision of the Marine Hospital Service.

At a meeting of the Pathological Society held Thursday, January 26th, Dr. Henry L. Williams presented specimens from a case of papilloma of both ovaries with ascites. The fluid removed from the abdomen measured 23½ pints and nearly a gallon more escaped to the floor. Dr. Williams stated his belief that papillomata tend to recur in a malignant form frequently with metastases and Dr. Riesman in discussing the case said that if any variety of tumor could be thought of as possibly parasitic in origin, the papilloma seemed to be the one most likely. Dr. Wilmer Krusen reported a case similar to Dr. Williams' in which, one year after he had removed the ovaries for papilloma, the entire abdomen had become the seat of a malignant infiltration.

Dr. A. O. J. Kelly spoke at length of histologic technic and demonstrated the use of apparatus. He confined himself principally to a discussion as to the relative value of paraffin and celloidin methods of infiltration of tissue and showed photographs of an apparatus devised for the purpose of keeping celloidin preparations free from the moisture contained in the air. For this purpose he uses a wire shelf, placed in an ordinary specimen jar, under which calcium chlorid is kept. The discussion brought out different views as to the value of various infiltration methods. Dr. W. M. L. Coplin and Dr. David Riesman said they had never experienced any difficulty in keeping celloidin for an indefinite time in ordinary bottles well stoppered, and Dr. Williams said he had tried the calcium-chlorid method which had proved unsatisfactory.

Dr. A. C. Taylor drew attention to a possible urinary test for observation of the pancreatic duct which had been called to his attention by a case in which, in this condition, there was a marked diminution in the ethereal sulphates

Dr. Wadsworth exhibited some skiagraphs of tabetic arthritis, a dermoid cyst, and a calculus. The first showed that skiagraphy is of little import in this condition but calculi can be judged as to their density by the resistance offered to the X-ray. The dermoid cyst was shown fairly well by the skiagraph though it did not

clearly indicate its character: the cyst itself was also shown and contained several teeth and some bony material.

The Cambria County Medical Society suffered a severe loss from a fire which occurred last week. The Waters' block at Johnstown was destroyed and in it were the laboratories of the society which had recently been donated by the late Dr. J. M. Toner. The Toner library containing about 8000 medical works, some of which were very rare, was also destroyed causing a pecuniary loss of about $30,000, with no insurance.

The Lehigh Valley Medical Association met at Bethlehem on January 26th. Dr. Charles M. Ott, Director of the Packer Memorial Hospital at Sayre, presented a paper on "The Importance of Early Operation in Tuberculosis of Bones and Joints"; Dr. Olin F. Harvey one on "Some Peculiarities Found in Examining Applicants for the Regular Army," and Dr. G. Betton Massey of Philadelphia, one on "The Advantage of the Cataphoric Method of Destroying Cancerous Growths."

At a meeting of the Pediatric Society, held January 10th, the following officers were elected: President, Dr. Edwin E. Graham; vice-presidents, Drs. Alfred Stengel, D. J. M. Miller, and Thompson S. Westcott; secretary, Dr. Alfred Hand, Jr.; treasurer, Dr. H. B. Carpenter; recorder, Dr. D. L. Edsall. Executive Committee, Drs. S. M. Hamil, J. P. Crozer Griffiths, Frederick A. Packard, John H. Jopson, and George Woodward.

Dr. David Riesman has been appointed by the Board of Trustees of the Philadelphia Polyclinic and College for Graduates in Medicine Professor of Clinical Medicine. Dr. W. H. Parish has been appointed Medical Director of St. Agnes' Hospital. Dr. John T. Carpenter, at one time President of the County Medical Society and of the State Medical Society, died at his home in Pottsville on Sunday, January 22d.

The total number of deaths occurring in Philadelphia for the week ending January 28th, as reported at the Health Office, was 518, of which number 133 occurred in children under five years of age.

OUR LONDON LETTER.

[From Our Special Correspondent.]

H. R. H. ON BOTH SIDES OF THE FENCE—ANOTHER HONOR FOR LORD LISTER—DARING RESCUE FROM THE FUMES OF HYDROCYANIC ACID—H. I. M. CONFERS ADDITIONAL HONORS UPON THE MEDICAL PROFESSION—SO-CALLED AMERICAN IDEAS AND AMERICAN INVENTIONS.

LONDON, January 17, 1899.

THE inconveniences of royal personages as patrons of reform has been forcibly illustrated during the last few days. Only a couple of weeks ago H. R. H. the Prince of Wales was presiding over a public meeting of the Society for the Prevention of Consumption, and thus pronouncing the benediction of "good form" upon its crusade. Last week his name appeared at the head of a petition presented by the Smithfield Market Club *against* the abolition of private slaughter-houses, which is one of the cardinal items in the propaganda of the first-named society. Indeed, all sanitary reformers and progressive citizens have been urging this step upon the London County Council for months, and thought they had almost succeeded in securing its action. The explanation is simple enough. The sporting tastes of the Prince are well known, and evidently, in the language of the Bowery, some other "dead-game sport" has worked upon the good nature of His Royal Highness to prostitute his name and influence in this extraordinary fashion. The painful question, of course now arises, Had he any clear idea of what he was doing when he presided at Marlborough House two weeks ago?

The council of the Royal Institute of Public Health has awarded the Harlien Gold Medal for distinguished services to preventive medicine for 1899 to Lord Lister. He certainly deserves it, and a hundred like it, if mortal man ever did, but it looks a trifle like "gilding refined gold and painting the lily."

Great enthusiasm has just been excited by the heroic rescue of five persons by a young corporal of artillery, William Hall, from imminent death by influences which have a curious medical, or at least materia-medical, interest. The young children of an electroplater named Grimme, got into his workshop during his absence and upset a can of cyanid of potash into a shallow tank full of sulphuric acid. The fumes from this cheerful mixture prostrated all three of the children before they could even reach the door, and their mother and a shop-boy who came to their assistance shared the same fate. Mr. Hall, who was passing in the street, saw the crowd at the bottom of the staircase, and dashing bravely into the deadly fumes rescued all five of the victims, one after the other, although he was so nearly overcome that on his last trip he fell unconscious, and would have been suffocated had not his brother come to his assistance. The curious evanescence of the poisonous effects of hydrocyanic acid is illustrated in the fact that in spite of their prolonged immersion in its fumes every one of the victims recovered within a few hours, and next day declared themselves as feeling actually none the worse for their terrible experience, except some nervousness.

Who can longer say that no good thing can come of alcohol? Lord Iveagh, whose superb donation to the Jenner Institute has made him the hero-benefactor of science for the year, is a member of the firm of Guiness & Co., the great Dublin brewers of "pale ale" and "Dublin Stout" fame. Still, we can hardly claim all his philanthropy as due to his alcoholic environment, for much of it is hereditary, his father, the founder of the firm, Sir Benjamin Guiness, having been a great public benefactor of his native city, Dublin, and his brother, Lord Ardilaun, having just united with him to clean up nearly a square mile of slums in the heart of the city, and rebuild it as a model ward for working men, with sanitary cottages, public baths, a recreation park, and a concert hall with permanent orchestra. This will cost another quarter of a million pounds. The father was knighted, and the two sons raised to the peerage on account of their great wealth and the public-spirited use

they made of it. Thus is the English aristocracy recruited.

And speaking of honors of this description, the list of the New-Year's gifts just made by Her Majesty contains at least two names that all the American profession will be glad to see there. One is Sir Henry Thompson, well known for his lithotomy and lithotrity work, who is raised from a knighthood to a baronetcy, and the other, Dr. Herman Weber, the climatologist, who is knighted, probably chiefly for the yeoman service he has rendered in the crusade against tubercle.

Inasmuch as the only difference between a knighthood and a baronetcy is that the title "Sir" is in the latter inherited, as Sir Henry Thompson has no son, the new honor seems rather an empty—we will not say a "baron"—one in his case, although, of course, the satisfaction of writing "Bart." after one's name and title is supposed to be something. A Dublin physician, Dr. Plunkett O'Farrell, is also knighted, and "orders" of various sorts (conferring the right to wear a broad blue ribbon suspending an elaborate piece of jewelry round one's neck upon State occasions) are granted to no less than thirteen other medical men, chiefly of the Indian Medical and Colonial Services.

The London County Council is taking a view of its civic responsibilities which is of great sanitary interest and value. Much has been done in the way of breaking up slums by driving new and broad streets through and getting rid of tenement-rookeries by tearing them down to make space for public buildings or breathing-spots, but it has always been a complaint of workers among the poor that nothing was done to provide the wretched tenants who were turned out into the street by these means with new and better quarters. Thus, it was stated, they simply drifted away into other decaying neighborhoods to form new slums.

This view has had weight with the Council, which has recently come to the decision that in future whenever rookeries are torn down for the public good, an equal tenant-accommodation shall be provided in the form of model tenements or cottages, either in the near neighborhood or upon some alternate site at municipal expense. At this rate the slum will soon be as extinct as the dodo, and the death-rate shrink to even smaller dimensions.

A most singular form of sponging upon the good nature of physicians is alleged to exist by a prominent London paper. In some reflections provoked by the death of Sir William Jenner, it declares that it is by no means unusual for fashionable West-End physicians to not only attend *gratis*, but even to financially assist in floating certain of their aristocratic but impecunious patients, presumably for the sake of the "advertisement" of their illustrious patronage, and possibly their recommendation to others of "the swell set." We can scarcely credit the story, but after all is there anything more absurd in paying for the privilege of attending distinguished personages for the sake of "reputation" than in attending humble individuals for the same reason? The alleged custom is well characterized by the *Graphic* as "West-End pauperism."

Much sportive comment has been provoked both in the press and in society by the humorous remonstrance addressed to novelists by the *Medical Press* on the serious danger of their depopulating the world of fiction by the terrible preponderance of the death-rate over the birth-rate in their pages. The *Press* has been gathering statistics and reports that in some forty of the most popular novels taken at random the deaths are to the births recorded as *ninety-six* to one!

Dickens is given honorable mention as the least flagrant offender, while Anthony Hope is awarded the bad eminence of the most reckless one, for his "Prisoner of Zenda" has an average of five deaths per chapter, and not a single birth in the whole of it. Not even the prospect of one, for it notoriously fails to end with the time-honored formula "and they were married and lived happily ever after." Various considerations have been urged in extenuation that Anthony Hope, for example, is a bachelor, that children are seldom interesting except to their parents, and, lastly, what is most pertinent for our consideration, that a number of the accused authors are Americans, and "children are going out of fashion in America." It is astonishing how strong a hold this last impression has gained upon the popular mind, nearly every device for the prevention of conception or production of abortion is described as an "American" invention.

Vaccination since its desertion by the law is receiving support from an unexpected source. The trustees of the great Peabody model dwellings, who control the rooms of more than 11,000 working men, insist upon vaccination as one of the first conditions of tenancy. A few days ago a laborer who had been a tenant for four years availed himself of the notorious "conscience clause" in behalf of one of his children, and received notice to quit within twenty-four hours.

Appreciation of the value of the doctor in school-work is steadily growing. Of thirteen lecturers at the winter session of the Royal College of Preceptors, three are doctors, and the London School-board has just appointed four physicians to deliver courses of special lectures upon the proper use of the voice and care of the throat.

A most singular cause of death has just been reported at a coroner's inquest here. The seven-month's-old child of a hair-dresser was sitting playing with its toys when its father, who sat just behind, suddenly sneezed violently. Instantly the child started, fell back in its chair in convulsions, and died in a few minutes. The doctor who was called testified that he could find nothing amiss with the child except some traces of a recent bronchitis, and that death was due to heart-failure. The description strongly suggests "*thymus tod.*"

And now even "Phossy Jaw" of sensational fame may be placed upon the banners of the Consumption Crusade. Dr. Stockman of Glasgow has just reported the examination of the pus from six cases of phosphorus necrosis, and that he found tubercle-bacilli present in every case. Furthermore, upon investigating the records of a large number of fatal cases, he found that a large majority of the patients died of pulmonary tuberculosis, and that gener-

alized tuberculosis, intestinal tuberculosis, and meningitis were not uncommon. Rabbits exposed with injured teeth to the fumes of phosphorus died in six weeks of tuberculosis, but those kept in sterilized hutches and protected from contagion resisted the fumes almost indefinitely.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Ninety-third Annual Meeting, Held at Albany, N. Y., January 31, and February 1 and 2, 1899.

FIRST DAY—JANUARY 31ST.

MORNING SESSION.

THE meeting was called to order by the President, JOHN O. ROE, M.D., of Rochester. REV. MR. SYLVESTER offered prayer. The President then delivered his

INAUGURAL ADDRESS,

There appeared before the board representing the Medical Society of the State of New York 809 applicants for licenses; before the homeopathic board, 36; and before the eclectic board, 24; making a total of 869. Of those appearing before the board of the Society 24.9 per cent. were refused. The rejection by topics were: anatomy, 55; physiology and hygiene, 41; chemistry, 67; surgery, 54; obstetrics, 62; pathology and diagnosis, 68; therapeutics, practice, and materia medica, 78.

That medical charity is most wantonly abused no one will deny, or question the necessity of correcting this abuse in the best and most effective manner possible. A bill has been recently formulated and presented to the Legislature, which is, we believe, the best that has yet been prepared, as it gives the medical profession equal representation with the laity in the chartering and management of these institutions, under the control of the State Board of Charities. Section 5 of chapter 4 of the by-laws of the society says: "There shall be a standing Committee on Legislation, consisting of three members, the duties of which shall be to watch the course of State Legislation on medical subjects, and to take charge of such matters pertaining to medical legislation as shall be referred to it by this Society. All proposed legislation offered by any member of the Society, and all resolutions touching medical legislation shall be referred to this Committee, which shall make a report thereon to this Society as soon as possible. It shall also, at each annual meeting, report to the Society any laws relating to medical matters that shall have passed during the year." If the wording of the by-laws is to be construed that this committee is only to look on or take notice of the legislation affecting medical subjects then the committee is entirely useless and the duty is merely perfunctory. It is recommended that this be revised.

The advisability of granting licenses to midwives is questionable for if we grant to them the special privilege of practising medicine to this limited extent, we will have to admit the justice of the claims of the opticians, osteopaths, Christian Scientists, and the dermatological quacks. It is recommended that this question be placed entirely under the control of the State Board of Medical Examiners.

The medical laws of this State at the present time are eminently satisfactory and entirely adequate to rid the State of every illegal practitioner if they were enforced. The difficulty lies in the laxity of their enforcement. It is especially discouraging to students in medicine to spend years in study and hard work to fit themselves to pass the requirements of the Examining Board, when these illegitimate practitioners and quacks are allowed to go unmolested.

The antivivisection bill has been before Congress for two years, and its passage urged by its fanatical advocates, and the representatives of various humane societies. That vivisection should be prohibited by law from being practised by persons having no interest in science, or for the gratification of a morbid curiosity, there is no question, and that if it is frequently abused no one will deny; but when rightly conducted, vivisection teaches science many valuable lessons. The inconsistency of these myopic fanatics cannot be better illustrated than by the alacrity with which they will go from their convention halls to their rods and guns to gratify their desire for sport by torturing the poor fishes with their cruel hooks, and destroying the lives of harmless birds and noble animals, or inflict mortal wounds from which they die a lingering and agonizing death. Marvelous advances are made in serum-therapy; but still these cranks would rather see their children die of diphtheria than to have the means of prevention discovered by comparatively painless methods of animal experimentation.

The extent to which the adulteration of food is carried on in this country is estimated by the Agriculture Department to affect $700,000,000 of food-products annually. That is, the people of the United States are defrauded to that extent. Bills for the prevention of this adulteration of food and drugs has been introduced in Congress. One called the Faulkner Bill, and the other, the Brosius Bill. Every National or State organization should appoint a committee to cooperate with the Committee of the National Pure Food and Drug Congress, to bring about the passage of these bills.

DR. HENRY R. HOPKINS of Buffalo read the report of the committee on hygiene. The total mortality of our army of industry for the year is 124,600; 12,370 of this number were deaths from accidents and old age, and the remaining 112,230 deaths show the difference between our hopes and our realization. The mortality from diseases known to be communicable is 19,510; add to this deaths from consumption, 13,257, known to be communicable, equals 32,767. Add to this the next largest single group of deaths from acute respiratory diseases, 17,106 and we have a total of 49,873, representing deaths from diseases most probably communicable and, therefore, preventable.

DR. J. M. VAN COTT of Brooklyn, Chairman of the Committee on Prize Essays, reported that no essays had

been presented, probably on account of the smallness of the prize offered—$25. A motion was then made and carried that the money should be held over for three or five years, and then offered as a prize, since the amount then might stimulate competition.

DR. CHAUNCY P. BIGGS of Ithaca presented a paper on

FRACTURE OF THE CERVICAL VERTEBRÆ, WITH SPECIMEN.

A man, aged seventy-five years, of remarkable strength and vigor, by the sudden starting forward of his horse was thrown from his wagon, striking on the ground upon his head. He was rendered helpless from the moment of injury. Whether complete paralysis occurred at the time or not was not known. He suffered more pain from the ride from the scene of injury than at any time after. Two surgeons from New York were called in consultation, who pronounced the injury one of fracture of the cervical portion of the spine about the sixth or seventh vertebræ with a dislocation backward. The finger introduced into the mouth discovered a prominence in the pharynx. The peculiar nature of the fracture was found later to be different from the conception expressed by these two doctors. The specimen shown proved that the canal was not obliterated, but that the injury to the cord resulted from a spicule of bone that penetrated it. The marked and characteristic deformity in the pharynx was due to the crushing of the upper end of the upper fragment and not to any dislocation; this prominence was situated below the seat of injury and not above it. The cord with the spicule of bone was exhibited; also, the spinal column. It was believed that the crushing of the body of the fifth vertebra resulted from the blow upon the head, and the fracture of its arch was the result of the blow upon the back of the neck. The points of special interest in the clinical history were the clear, clean-cut condition, the exact lines of anesthetic areas, the complete paralysis of all the muscles which received their nerve-supply below the injury, the subnormal temperature, and the freedom from any urinary infection. The flexors of the arm and the diaphragm were the only muscles not completely paralyzed below the point of injury.

DR. W. D. GARLOCK of Little Falls presented a paper on

AN UNUSUAL INJURY TO THE KIDNEY, WITH SPECIMEN.

A healthy man, thirty-one years of age, while engaged in a game of base-ball, was run into by a fellow-player, and forcibly struck on the left side between the eleventh and twelfth ribs. The blow completely prostrated him, and he suffered greatly from shock, but was not rendered unconscious. He was moved several times, and the first physician he saw gave him a hypodermic of morphin, finding him in marked shock, pale, with moist skin, feeble pulse, and a temperature of 97° F. No tumor or dulness was noted. The urine was clear, and there was no difficulty in micturition. The next morning he passed a very small amount of bloody urine, and he then stated that he passed a very small amount after the accident. Shock was still present, and there was some dulness and tympany. Twenty-six hours after the receipt of the injury there was marked distention, shock, and evidence of growing tumor in the left kidney region. Operation was advised and consented to. Evidences of peritonitis were found when the abdomen was opened, and there was blood in the peritoneal cavity, and the omentum was found to be torn across. Over the site of the left kidney a subperitoneal tumor was noted, while posterior to the kidney a large amount of blood was found. The large amount of lacerated injury done the kidney necessitated its removal. Three hours after the operation the patient died.

DR. WILLIAM H. PARK of New York read a paper on

FORMALDEHYD DISINFECTION.

(This article will appear in a future issue of the MEDICAL NEWS.)

DR. ERNEST WENDE of Buffalo read a paper with the title

THE DANGERS OF THE LONG-TUBE NURSING-BOTTLE.

This long tube in the nursing bottle is a prolific source of cholera infantum. No better incubator could be devised for the development of germs. Milk is the favorite food of bacteria. These tubes render this favorable for the development of organisms, and conditions are here present for the production of this dreaded disease. Experimental work was conducted upon various tubes taken from different drug-stores. These tubes were found to be of more than one layer, and these layers were connected together by pits; the material was very porous; these little cavities favored the propagation of germ life. Elevations and depressions were shown by microphotographs. It is obvious that the ordinary methods of cleansing cannot remove the danger. The kind of bacteria found were noted, especially the staphylococcus pyogenes aureus. Segments of the rubber tube was placed in an incubator for five days to disintegrate them, and experimental studies then made, and the conclusions justified the opinion that milk and rubber, as existing in these nursing-bottle tubes, are prolific of great danger.

DR. A. WALTER SUITER of Herkimer, as a result of the investigations of Dr. Wende, offered a resolution, which was carried, that the Medical Society of New York procure the enactment of laws to prohibit the sale of long tubes in nursing-bottles.

AFTERNOON SESSION.

The following nominating committee was appointed by the President: Drs. J. B. Ransom, Wendell C. Phillips, William Browning, H. Bendall, Eugene Beach, O. C. Eastman, Edward Meany, M. P. Conway, and Ernest Wende.

DR. WILLIAM G. BISSELL of Buffalo then read a paper on

THE DETECTION OF TUBERCULAR INFECTION IN SECOND-HAND CLOTHING.

His conclusions were based upon the result of investigations carried on by him in the Health Department of

Buffalo, regarding tubercular infection. In connection with military duties, his attention had been called to the fact that several members left the organization on account of tuberculosis. At that time the uniforms and overcoats, when discarded by an out-going member, were assigned to the next new recruit. According to his views, these uniforms of men who had contracted tuberculosis were capable of transmitting that disease to the next wearer. He conducted a series of experiments to prove this. Uniforms were secured, their pockets removed and labeled; they were then washed, and the resulting washings were placed in a centrifugal machine until a sediment was obtained; this sediment was diluted and injected into sixteen guinea-pigs; seven of these died of acute septic disturbances; of the nine remaining animals, five recovered, but two of these died later of tuberculosis. The animals which contracted tuberculosis contracted it through the inoculation of material obtained from the pockets of the discarded uniforms. This proves the great danger of communicating tuberculosis by clothing worn by consumptives.

DR. H. R. HOPKINS of Buffalo then offered a resolution, which was carried, that the Society approve the matter of municipal control of dealers of second-hand clothing and refer it to the Committee on Legislation.

DR. W. L. CUDDEBACK of Port Jervis presented a paper on

INTESTINAL RESECTION: PERSONAL EXPERIENCE,

in which he related his experience in dealing with a case of strangulated hernia, with complications following, necessitating the resecting of the intestine by means of the Murphy button; the abdominal cavity was afterwards flushed.

DR. ROBERT H. M. DAWBARN of New York spoke in regard to using the Murphy button for end-to-end anastomosis. The button might be left behind, necessitating a secondary celiotomy for its removal, as occurred in the experience of Dr. Wyeth of New York. Other methods he considered equally rapid. The second point which he criticised was in regard to washing out the abdominal cavity. It is now the practice among New York surgeons not to wash out but to wipe off; of course, if there is a general suppurative involvement, or feces in the cavity, irrigating the cavity must be done. It is the unanimous opinion that wiping should be resorted to rather than irrigating.

DR. WILLIAM C. KRAUSS of Buffalo then offered a paper on

THE CLOSE RELATION BETWEEN THE NASAL AND THE CRANIAL CAVITIES AND BETWEEN NASAL AND CRANIAL DISEASE.

After speaking of the anatomy of these parts he referred to the old idea that the watery secretions often found running from the nose come from the brain; this idea he did not think to be altogether fallacious, on account of the close relationship between these cavities. He thought there is a direct aeration of the brain, and through the nasal cavities there is a ventilation of the brain, especially of the frontal lobes. In cases of obstructions it has been found that the portion of the brain on that side was not so well developed as on the unobstructed side. To prove his assertion he referred briefly to the case of a girl, whose mental functions developed rapidly, and she seemed bright and active up to a certain age, when she became stupid and dull and could not learn anything. The doctor suspected adenoids. Adenoids were found and an operation performed, and in the space of a few months she took her place with children of her own age and is now as bright and active as any of her companions. It was the obstructed nasal ventilation which caused her condition. The effect of this temporary nasal obstruction is often seen, causing imperfect brain action. The nose is the cavity of the body most often exposed to infection; it serves as a filter of germ life and is, therefore, a nidus for their development, being a hospitable abiding place for them; here they have warmth and moisture, and the nasal mucous membrane contains many bacteria.

The statistics of Buffalo show that in 1893 there were 239 cases of death from cerebrospinal meningitis; in 1894, 244; in 1895, 219; in 1896, 186; in 1897, 207; in 1898, 181. The statistics carefully made shows only two diseases that have a greater death-rate than cerebrospinal meningitis, *i.e.*, tuberculosis and phthisis. It is very prevalent in Buffalo, and has a very high death-rate, and is especially prevalent during the first half of the year, at the time when there is more nasal trouble. He desired to plead for a more careful attention to the nasal mucous membrane. Lotions are hardly ever applied to this the most filthy of all the cavities of the body. Children should be taught to wash out the nasal cavities regularly as they are taught to brush their teeth. For cleansing Dobell's solution is most satisfactory of all; it should be used warm and in small quantities, and be followed by the use of liquid vaselin in small quantities.

DR. CLARENCE C. RICE of New York, read a paper on

THE IMPORTANCE OF EARLY EXAMINATION AND TREATMENT OF CATARRHAL MOUTH-BREATHING IN THE PUBLIC SCHOOLS.

Ninety per cent. of the class of cases termed "mouth-breathers" in children are not simple ailments of catarrhal disease of the nose but are evidences of obstruction which prevents nasal respiration. This obstruction is largely due to the presence of enlarged tonsils. It is impossible for children to clear their nostrils by blowing, for the post-nasal space is completely blocked. Most authorities do not recognize the fact that ninety per cent. of mouth-breathing occur in children as a result of this cause. Small hypertrophies in this situation produce a chronic rhinitis and a general catarrhal condition. Enlargement of the post-nasal tonsil is often a very important factor. To diagnose this the finger is a very unreliable guide unless the physician has made many such examinations. The doctor makes a diagnosis with the post-nasal curette if he cannot use the mirror, this being often impossible in fractious children. With the curette the vault is found to be slippery as glass or polished wood; no tissue can be

taken away; if there is a soft, spongy tonsil it can be pulled down with the curette. It is much easier to use the curette than a finger in the small space in small children. In nine to ten per cent. of older children there is some enlargement of the posterior nasal tonsil, frequently small but often of most importance. It is present in sixty per cent. of all deaf-mutes. The importance of these lies in the fact that mouth-breathing is neglected in school children. The presence of this condition in school children is a constant menace to their companions. Decomposing nasal secretions cause an acute rhinitis, etc., and every physician who treats many of these cases has difficulty in keeping his own nose in good condition; he must neutralize his own nasal passages. The medical inspectors in schools in New York do not look for mouth-breathers; they look for the commencing signs of infectious diseases. Mouth-breathing should also be looked after.

DR. ROBERT H. M. DAWBARN of New York read a paper on

HOW TO TREAT SHOCK.

(To appear in a future issue of the MEDICAL NEWS.)

DR. B. FARQUHAR CURTIS of New York presented a paper on

FEVER IN ASEPTIC SURGERY.

(To appear in a future issue of the MEDICAL NEWS.)

DR. A. T. BRISTOW of Brooklyn presented a paper on

THE USE OF ANTITOXIN IN PHLEGMONOUS INFLAMMATIONS, WITH A REPORT OF CASES.

(To appear in a future issue of the MEDICAL NEWS.)

DR. CARLOS F. MACDONALD of New York read a paper on

PUERPERAL INSANITY.

Ninety per cent. of cases of insanity assume the maniacal type; ten per cent. are quiet and more or less prolonged. He then briefly considered the causes of mental aberration. The immediate and direct cause is malnutrition. It is the duty of every physician to familiarize himself with the various causes in order that he may be enabled to combat this trouble. Insomnia is an unfavorable accompaniment and should always be considered as such especially when accompanied by constipation and suppression of the lochia. As regards the prognosis, the pulse is an important guide; when it is below 100 or even 106 a favorable result may be recorded as regards life. A rapid pulse indicates gravity and should make one circumspect as regards opinion. There is no specific in the treatment of this condition. Manage and treat each patient on general principles, looking out for functional troubles, such as sleep and innutrition. As regard hypnotics, sulfonal, chloral hydrate, and many others are used. Sulfonal is hypnotic and sedative in action. In puerperal melancholia we have a valuable remedy in opium. Extract of cannabis indica is valuable, especially when a diuretic effect is desired. If involution is not complete the fluid extract of ergot in dram doses is good; and one should remember that in insanity larger doses are required than in health. Food should be given at regular intervals; if food is refused forced feeding must be resorted to by the stomach tube. One should keep in mind the fact the insanity is an exhausting disease calling for highly nutritious food.

DR. HENRY A. FAIRBAIRN of Brooklyn read a paper on

CARDIAC DEGENERATION AS EXEMPLIFIED IN THE SOLDIERS OF THE LATE WAR.

DR. R. H. HOPKINS of Buffalo, presented a paper on

HYGIENIC CAMPS,

in which he gave the statistics of deaths from explosives, from wounds, and from disease in the Crimean War, the War of the Rebellion and in the late Spanish--American War.

EVENING SESSION.

DR. GEORGE W. BRUSH of Brooklyn presented a paper on

THE RELATIONS OF PREVENTIVE MEDICINES TO POLITICAL ECONOMY.

The States should take more active measures to prevent the spread of consumption. Until recently little has been done by the State. The highest duty of the State is to secure the welfare and happiness of its inhabitants by the preservation of the health of its citizens. Without health the productive power of the citizens is lost to the State. In any case of disease whose propagation could be prevented, it would be a crime not to make an effort to stop its mortality. The New York State Board of Health has taken active measures in stamping out infected meat and milk. While work has been done in this line, little has been done to prevent disease in the human race. At the last session of the Legislature a special committee was appointed, of which the speaker is the chairman, whose duty it is to found sanatoriums in the Adirondacks for tuberculous patients. The committee made careful research, and recommended that hospitals for the treatment of this disease be founded; it also recommenced the wise dissemination of literature treating of the subject, realizing that much can be done to prevent the spread of this disease in that way. It is well-known that hospitals for the care of consumptives among the poor do not wish to take in the poorer classes; this is an astonishing statement to make, but it is only too true. Ordinary hospitals will not want these cases among the poor, so they are driven back to the tenements, and so assist in disseminating this disease.

There are three phases to be considered: First, the humanitarian aspect; second, the duty of the State to protect its individuals; third, the economic aspect. The speaker advised a wider dissemination of knowledge of this disease among the people, especially as regards disinfection. This dissemination of knowledge and the establishment of hospitals certainly demands prompt attention at the hands of the legislative bodies of this and other States. Only one State—Massachusetts—in the Union has established such a hospital during the past year.

DR. J. H. PRYOR of Buffalo read a paper, entitled

THE RELATION OF THE CONSUMPTIVE TO THE STATE.

(It will appear in a later issue of the MEDICAL NEWS.)

DR. WILLIAM HAILES, JR., of Albany showed a series of

MICROSCOPIC PROJECTIONS.

With the usual magnification of a one-half-inch lens he was able to demonstrate very clearly all the important features of the cellular human tissues. The position of the projected picture and its focussing on the screen the lecturer could change for himself by a system of three rods attached to the projection apparatus and leading to the position near the screen where the lecturer stood. Dr. Hailes announces the appearance in the near future from a well-known optical firm of a projection apparatus that will demonstrate to large audiences microscopic slides with the details of a one-twelfth-inch oil-immersion lens.

DR. LOUIS A. WEIGEL of Rochester read a paper, entitled

THE X-RAY FROM THE STATIC MACHINE AND SOME PRACTICAL POINTS IN MEDICINE AND SURGERY.

Among other things shown were: Skiagrams showing that the amount of cartilage present around children's joints makes it extremely difficult, practically impossible, to diagnose fractures in these regions in the young by means of the X-rays. A skiagram of a case in which pain around the hip-joint developed in a child during the course of typhoid fever, with disturbance of the joint relations and shortening was presented. The condition was diagnosed as one of tuberculous hip-joint disease for years until the skiagram showed that it was a dislocation of the head of the femur on the brim of the acetabulum. The case was evidently one of those rare spontaneous luxations of the hip that sometimes occur during the course of typhoid. They have been studied recently, especially by Keen.

A bad comminuted fracture at the wrist was shown in skiagram. The diagnosis of the real condition was only possible by the X-rays and was very easy then despite the presence of a great deal of swelling and a bandage. It was cut down upon and an excellent functional result obtained considering the circumstances. A skiagram subsequent to recovery, however, still showed, as might be expected, marked deformity. Such a skiagram if taken by a court of law, without the clinical history, might seem absolute evidence of bad surgery. As a matter of fact in this case it was really evidence of the best conservative and scientific surgery since the case was such as is often thought a proper subject for amputation.

Skiagrams were exhibited showing that glass is opaque to the X-rays almost as much as is bone. They were taken to demonstrate that there was absolutely no foundation for a threatened damage suit in which the patient claimed that her surgeon had failed to remove all the fragments of glass from wounds in her hand made by a broken pane of glass. In the patient's hand the X-rays absolutely failed to show the presence of pieces of glass.

Skiagrams showed suspicious transparency of bone over a tender point in bone suspected to be a tuberculous focus, so that the X-rays may prove a valuable diagnostic agent in the very early stages of bone and joint tuberculosis. In anchylosis skiagrams were shown from which the advisability or not of operative intervention could easily be decided, and whether the anchylosis was bony or fibrous demonstrated.

DR. G. W. WENDE of Buffalo, read a paper on

CERTAIN RARE SKIN DISEASES ILLUSTRATED BY STEREOSCOPIC PROJECTIONS.

Among the notable cases pictured were parakeratosis, an atrophic skin lesion, that so far has been observed only in Italy and America. It consists of a depressed patch of skin, with abrupt hard edges, in the floor of which the natural folds of the skin are obliterated. It is progressive and leads to the obliteration also of the cutaneous glands, etc., in the area affected.

A case of favus affecting in huge patches the non-hairy skin was shown. Kaposi had had a similar case, with gastro-intestinal symptoms, which had proved fatal, and at the autopsy the lesions of favus were found in the intestines. This case also proved fatal after intestinal symptoms, but only a very incomplete autopsy was allowed by the family, and no lesions of the digestive tract were found.

Stereograms of a case of rhinoscleroma was shown that had gradually progressed to fatal issue. It is of special interest as occurring in a child of twelve of American parentage, who had always lived in Buffalo. Injections of salicylic acid into the diseased tissues, as recommended by Professor Lang, had been tried but seemed to do more harm than good. The case was a most typical example in all its symptoms, in its evolution, and final fatal issue of this rare disease which has been hitherto considered not to occur in this country.

A picture of multiple idiopathic pigmented sarcoma was exhibited. Kaposi states that the prognosis of this disease is the worst possible and that the duration of the disease is usually not longer than three years. Sections of the diseased tissues showed the characteristic appearance of sarcoma. Notwithstanding this and the bad prognosis, large doses of Fowler's solution were followed by the complete disappearance of the lesions and the patient has now been for a year without any symptoms of the disease. This same experience has followed the use of Fowler's solution for this disease in other patients.

Photographs of a serious case of X-ray dermatitis wer exhibited which had followed a half-hour's exposure to the X-rays. The original erythema had taken nine days to develop into an ulcer that gradually spread over most of the dorsum of the foot and had been accompanied by intense pain. The painful element had always clung to the affection. The most sedulous and continuous care had failed so far to secure entire healing of the lesion. When seemingly almost well it broke down again. It is now more than a year since the origin of the lesion and there is still an open ulcer and the patient is yet unable to put his foot upon the ground because of the pain caused by the intensely irritant character of the lesion.

SECOND DAY—FEBRUARY FIRST.

DR. R. W. WILCOX of New York read a paper on

CHLORIN IN THE TREATMENT OF ENTERIC FEVER.

(It will appear in the next issue of the MEDICAL NEWS.)

Officers for the ensuing year were elected as follows: President, Dr. Willis G. Macdonald of Albany; vice-president, Dr. John Gering of Auburn; secretary, Dr. Frederick C. Curtis of Albany; treasurer, Dr. Charles H. Porter of Albany.

SECTION IN SURGERY.

FIRST DAY—FEBRUARY FIRST.

DR. HERMAN J. BOLDT of New York read a paper on

THE TREATMENT OF UTERINE HEMORRHAGE WITH STYPTICIN.

This drug, he said, is a derivative of narcotin, one of the alkaloids of opium. Its action on the circulation resembles in many respects that of hydrastinin. The scope of the remedy may be indicated by the fact that improvement followed its adminstration in peri- and parametritis after abortion and full-term deliveries, in some cases of menorrhagia associated with chronic oophoritis, menorrhagia in virgins presenting no evidence of pelvic disease, and in cases in which curettage had given only very temporary relief. Stypticin may be given either by the mouth or subcutaneously. By the former method the dose should be 3 decigrams or less.

DR. SEYMOUR of Utica said that he had long been of the opinion that the curette is used unnecessarily often and that medicine would frequently give better results.

THE RELATIONS OF MOVABLE KIDNEY AND APPENDICITIS TO EACH OTHER, AND THE PRACTICE OF MODERN GYNECOLOGY.

DR. GEORGE M. EDEBOHLS of New York read this paper. As a result of long practice with his original method of palpating the appendix he has come to the conclusion that chronic appendicitis is present in between 80 and 90 per cent. of women with symptoms resembling movable right kidney. Four per cent. of all women have appendicitis and 3½ per cent. have both appendicitis and symptoms resembling movable kidney. Movable left kidney never produces appendicitis. He has been able in more than one instance to observe the development of movable kidney and appendicitis. Much valuable information may be gained by making it a routine measure to palpate the appendix before undertaking abdominal operations.

CONSERVATIVE TREATMENT IN DISEASES OF THE OVARY AND VERMIFORM APPENDIX.

DR. ROBERT T. MORRIS of New York read this paper. After adverting to the important functions of the ovaries he spoke of the sad results which often follow operations on the ovaries with only imperfect knowledge of the conditions confronting the surgeon. Regarding appendicitis he said that various surgeons have succeeded in securing a death-rate of only a fraction of one per cent. by early operation in cases in which the infection had not extended beyond the appendix, and a death-rate of about five per cent. in cases in which the infection had spread further. This was contrasted with the death-rate of more than twenty-five per cent. from all forms of medical treatment of appendicitis.

DR. A. PALMER DUDLEY of New York spoke of his own conservative work on the ovaries, now embracing 114 operations. He had been able to collect statistics from these patients showing eighteen pregnancies and twelve living children. This seemed a sufficient justification for such conservative work.

(To be continued.)

THERAPEUTIC HINTS.

Relief from Itching Due to Bites of Insects and Vermin is said to be obtained if several repeated applications of formalin be made to the spot, the fluid being allowed each time to evaporate. The smarting caused if the spot by excoriated is relieved by water. The soothing effect is immediate, and beyond a hardening of the skin no objective results will be noted.—*Gonin.*

The Rigidity of the Perineum.—SOUTHWORTH claims that local application of the following mixture will effectually hasten the relaxation of a rigid perineum during labor:

℞ Chloroform . . . . . parts 2
Etheris } aa . . . parts 1.
Eau de Cologne }
M. Sig. External use.

For Bronchitis and Pulmonary Congestion.—Occurring in the course of grip in children, the following formulæ are recommended, the internal treatment being aided by the application of sinapisms and dry cups to the back:

1. ℞ Tinct. aconiti . . . gtt. v–x
Sodii benzoatis . . . gr. xv–xlv
Syr. lactucarii . . . *m.* xv–℥ iiss
Syr. aurantii flor. . . ℥ v
Mucilag. acaciæ . . . ℥ iv.
M. Sig. Two teaspoonfuls every two hours.

2. ℞ Ext. cinchonæ . . . gr. xxx
Terpin hydratis . . . gr. xv
Spts. vini gallici . . . ℥ v.
Syr. aurantii flor. . . ℥ i
Aq. melissæ . . . ℥ ii.
M. Sig. Two teaspoonfuls every hour.

For Erythematous Lupus. — UNNA frequently employs medicated collodion painted over the affected area from two to four times a day. The collodion used for the preparation must have a neutral, not an acid reaction.

℞ Saponis viridis . . . . parts 2–4
Collodii flex. . . . . parts 20.

℞ Saponis viridis } aa . . parts 2
Ac. salicylici }
Collodii flex. . . . . parts 20.

To be used if the skin shows much irritation:

℞ Ichthyol . . . . . parts 5
Collodii flex. . . . . parts 20.

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ORIGINAL ARTICLES.

THE TREATMENT OF TYPHOID FEVER BY CHLORIN.[1]

BY REYNOLD W. WILCOX, M.D.,
OF NEW YORK;
PROFESSOR OF MEDICINE AND THERAPEUTICS IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; PHYSICIAN TO ST. MARK'S HOSPITAL.

FOUR years ago I presented a paper upon this subject before this Society. At that time I brought out the fact that several of the accepted ideas in regard to the effect of chlorin were erroneous. I showed that it was not entirely changed into chlorids in the stomach or blood, and excreted as such by the kidneys, nor was it irritating to the mucous membrane of the alimentary tract. I reported at that time the histories of four patients who had been under observation, and the results conclusively showed the beneficial effects of chlorin. During the time which has elapsed since my first report, if I may judge from an extensive correspondence with physicians, the statements which I made have been accepted. My purpose to-day is to briefly review the present status of the treatment of typhoid fever, and to report a series of cases illustrating the beneficial results which can be obtained in apparently desperate instances of this fever. Yet during the time which has elapsed every one who reads attentively the literature concerning the treatment of enteric fever must be impressed with the vigor and persistence with which the advocates of cold bathing argue for their pet method.

While I am willing to admit that under certain circumstances and conditions cold bathing may be of advantage in enteric fever, I may be pardoned for subscribing to the statement cleverly presented by a recent writer that "while it is written that man shall not live by bread alone, it should also be added that all diseases are not cured exclusively by cold water." Yet in all the literature upon the use of cold water there seems to be a glaring ignorance of the real history of this method. You are well aware that this method of treating typhoid fever has been named after Brand. As a matter of fact it is extremely difficult to understand why this should be so. Historical accuracy demands that to James Currie of Liverpool belongs the credit of the introduction of the cold-water treatment in fevers. Nor, indeed, can the argument be maintained, which is occasionally advanced, that the method was not strictly determined either in its procedure, or in its indications or contra-indications, owing to the lack of use of the clinical thermometer, for it is a matter of fact that Currie was one of the first in England to make use of the clinical thermometer, being even the inventor of an index which would facilitate its more accurate reading. Yet it is true that for all that Currie's observations date back to 1786, it was not until six years later that he made use of the thermometer systematically. For all that Brand's paper was published in 1861 it was not until five years later, *viz.*, 1866, just eighty years after Currie's observations were made that cold-water bathing attracted much attention, and, if we would wish to be accurate as to the facts, the method—if method it be, should not be called the Brand treatment of typhoid fever, but credit should be given to Jürgensen of Tübingen who pressed the claims of this method upon the profession. Accuracy, then, demands that it should be called the Currie-Jürgensen method. Nor should we forget that R. W. Matthewson, Nathan Smith the elder, and Hiram Corson were strong advocates of the use of cold water in the treatment of typhoid fever long before the subject had attracted attention upon the Continent.

The history of this method is a curious one, and inasmuch as my experience began and mainly ended before any of its present high-priests, apostles, and propagators were acquainted with it, I may be pardoned for briefly alluding to the various theories which have been advanced. In the early period of the use of this method it was advocated because it was thought it reduced that great bugbear of the time, the fever. When it became apparent to any one who carefully observed his patients that its effect upon the fever was transient, that almost as frequently the temperature rose after the bath as fell, this theory of its use became untenable and was abandoned. But the devotees of the bath continued to tub their patients without any theory. Later the patients were subjected to the bath on the ground that it was a wonderful nerve stimulant, and those of us who see most of it are willing neither to affirm nor deny the truth of this hypothesis for it has the merit of most gratuitous hypothesis in that it can neither be disproved nor proved. With the fall of

[1] Read at the Ninety-third Annual Meeting of the Medical Society of the State of New York, held at Albany, January 31, and February 1 and 2, 1899.

the theory of nervous stimulation the baths continued just the same, for the second time without a theory. The last and present theory of the use of the baths is that they increase the elimination of ptomains. The baths certainly are diuretic, but that they eliminate ptomains is at present incapable of proof, for the simple reason that at this present moment we have no method by which ptomain-elimination can be accurately measured. It has been said that the urotoxic coefficient increases after the bath, but how is this determined? By the injection of urines from patients into different animals! Now it is true that certain animals are more susceptible to the toxic influence of urine of animals of other species, and the determination of the urotoxic coefficient by this method rests solely upon the behavior of the test-animals after injections of these urines. Inasmuch, also, as the intravenous introduction of urine even of animals of the same species is an inexact demonstration it is evident that this test is absolutely fallacious. It is perfectly safe at the present time to say that until chemistry shall afford us a method of obtaining quantitative and qualitative results as to the toxins found in the urine all theorizing as to the increased urotoxic coefficient must be absolutely worthless as a guide to clinical procedure. Even granted that the Currie-Jürgensen method does eliminate toxins, would it be more than a simple makeshift in the presence of the fact that the real treatment of enteric fever is the treatment directed to the cause and not to the effects of the disease?

While I have no intention of criticising a method which for its simplicity, rigid rules, and accurate dosage leaves no incentive for the practitioner but to travel in the narrow road of a disease and an assumed remedy, it is time, I think, to call a halt and consider whether we cannot in ways far more pleasant and, to say the least, quite as efficient, deal with patients suffering from this disease. The brute force of statistics is always thrust forward to convince us that cold bathing is the panacea, the begin-all and end-all of the treatment of typhoid fever. That even the brute force of statistics fails of effect is shown by the remarkable results obtained under all forms of treatment under all sorts of conditions in the late Maidstone epidemic.

Death from typhoid fever can take place (1) from general causes, such as toxemia, pyrexia, or paralysis of the heart; (2) from local lesions which are peculiar to typhoid fever, such as perforation and hemorrhage; (3) from intercurrent affections, as pneumonia. Following Sidney Phillips, I believe that we are justified in saying that pretty nearly one-half of all the deaths are due to the second and third causes. If the statistics of Hare of Australia prove anything they prove conclusively that the number of deaths from perforation and hemorrhage so far from being reduced by the use of cold water is increased by it. Deaths in the third group, from intercurrent affections, are relatively small. It is evident, then, that if the Currie–Jürgensen method is effective, it should be effective in diminishing the number of deaths from general causes. The claim, then, that this method reduces the mortality from seventeen or eighteen to eight or nine per cent., if true—and it may possibly be—it means that eighty-two out of every hundred who would recover even without the bathing and the nine who will die with or without bathing, *i. e.*, ninety-one out of every one-hundred patients, are subjected to routine bathing unnecessarily and that the nine who die have these repeated baths added to their suffering. The difficulty of administration of cold water, to use an extreme term, the cruelty to the patient involved in its use, is practically to be ignored if this method offers better opportunity for cure. For my part, after an extended experience, I have never felt that it did, or that it was possible that it should, by any process of reasoning based upon the rules of logic. On the other hand, from the time that typhoid fever was recognized as a distinct disease, and more particularly when it was demonstrated by Eberth to be of bacteriologic origin, the eliminative and antiseptic treatment has been first and foremost in the minds of advanced clinicians. The question never has been as to the advisability of the antiseptic treatment in typhoid fever—that is self-evident. The only questions which have arisen have been, first, Can the antiseptic treatment be efficient? and, second, How shall we best secure its efficiency?

The use of chlorin is not new. It did not originate with me nor with Burney Yeo, for both of us derived our information from the same source, *viz.*, the practice of the physicians in India. I have felt that in the early stages of the disease we could treat many patients effectively by the use of such insoluble antiseptics as bismuth naphtolate and various preparations of salicylic acid, and by naphtalin, believing that in this way the vitality of the bacillus of Eberth might be inhibited, and the patient go on to satisfactory convalescence. An extended experience with the disease has shown me that a very considerable number of patients suffering from demonstrable typhoid fever do recover under this treatment in a period shorter than the assigned time for its course without ever having experienced evidences of marked systemic poisoning. On the other hand, I am aware that Sanulli is strongly of the

opinion that in this disease the intestinal lesions are the result of the action of the toxins circulating in the organism infected by the germ of Eberth, and that this is the principal cause of the material manifestations and morbid phenomena which go to make up the clinical picture of typhoid fever. If this be true, then an antiseptic which can be disseminated so far as the blood goes, and which can permeate every organ and every tissue is the prime necessity.

Probably no more difficult series of typhoid patients ever presented themselves than the soldiers who returned from the late war. With typhoid fever introduced in the camps of instruction, soldiers herded together in camps selected in utter disregard of the prime essentials of a healthy location, where every precaution as to water-supply and camp sanitation was disregarded, transported into a climate in an expedition improperly equipped, led into a campaign by a foolhardy commander, herded in unsanitary transports, returned to a camp in a region which for 250 years man has attempted in vain to inhabit, these men, half-starved, half-clothed, over-worked, and uncared for, furnished most striking examples of what official inefficiency and medical incompetency can do the human being. These patients did not suffer from typhoid fever alone—it was starvation *plus* typhoid fever, and when they were brought to the city to hospitals large numbers of them were either delirious or comatose, emaciated beyond recognition, the symptoms resembled septicemia rather than enteric fever, so that the problem of restoration to health was by no means an easy one. If there ever was a test for any method these conditions certainly furnished a severe one. In all the instances which I have recorded the diagnosis was confirmed by the Widal reaction.

CASE I.—McD., twenty-two years old, was in Puerto Rico from July 27th to September 11th. Eight days after his return the symptoms appeared. He came under my observation on October 1st, having been treated from September 19th by various methods, bathing, quinin, hydrochloric acid, oxgall, etc. His temperature at no time had been less than 102° F., in spite of all the methods, except immediately after some of the baths upon the 26th, 27th, and 28th of September, when there was a fall for a few hours, followed by a rise to a higher level. From this time to October 14th his temperature remained between 100° and 102° F., or over. Upon the 14th chlorin water was administered in dram doses every three hours, with the result that upon the 16th, two days later, his temperature reached 99.2° F., rose that evening to 100° F., and gradually subsided until his discharge, on the 28th, with a normal temperature. During the period of chlorin administration, in this and the subsequent cases, we made use of alcohol sponge-baths, and the patient was given milk with as much pure water as he cared to drink, an accurate measurement being made of all fluids taken in the twenty four hours, as well as the amount of urine passed during that period. This patient presented symptoms such as I had not seen since my student days—the apathy, the coated tongue, the tympanites—yet his convalescence was rapid and definite.

CASE II.—R. S., had been under observation since September 12th, when he was found to be comatose, so that no history could be elicited. From the first his temperature had been persistently from 103° to 105° F., no method of treatment having been apparently of any avail. He had run the gamut of remedies usually employed in typhoid. On October 4th the chlorin treatment was begun. The lowest point reached since he came under observation was on the 6th, when his temperature was 99° F., with a rise to 101° F. in the evening. His temperature gradually fell reaching normal on the 13th, when convalescence was established.

CASE III.—M. D. took part in two battles in Cuba, was about fifteen days in trenches, became sick about a week later, suffered from diarrhea, was returned to Montauk Point, and was treated by various methods. On September 8th his afternoon temperature was 104° F. and on the 10th, 106.2° F.; then a few days of subnormal temperature followed. His temperature followed such an irregular type that the blood was examined and plasmodium found to be absent. After a period of comparatively low temperatures on October 13th the patient suffered from a relapse, his temperature reaching 104.5° F. in the afternoon and 105° F. in the following afternoon. At this time we administered chlorin-water, with the result that normal temperature was reached upon the morning of November 2d and under the continuance of this remedy never rose above 99° F. The patient was discharged well on November 8th. During the early part of his treatment and up to the time of the relapse it was considered that he was progressing as well as could be expected so no antiseptic treatment was instituted.

CASE IV.—M. H., seen September 25th. No history was obtained as the patient was delirious. His temperature on admission was 104 6° F., running very irregularly, being with one exception over 101° and generally about 104° F. He had a severe hemorrhage on October 2d. Quiet and the ice-coil upon the abdomen kept the patient in a fairly comfortable condition. The temperature oscillated between normal and 101° F. during the process of his disinfection, which was commenced on the 6th. On October 11th the afternoon rise being less than one degree his medication was omitted. On the 14th pneumonia of both lower lobes developed and the usual course of pneumonia followed, reaching its culminating point on the 17th and gradually defervescing. Inasmuch as the stools during the latter part of the month, the 30th and 31st, were offensive and the patient suffered from tympanites and had a

temperature of from 100° to 101° F. chlorin was again given. Normal temperature was reached on the 15th and convalescence continued until he was discharged on the 27th of November.

CASE V.—G. O. came under observation on September 5th apparently in the early stages of the disease. The various methods were used without any apparent effect upon the progress of the disease, cold baths and alcohol sponging seeming to be equally inefficient, and the disease ran its usual course until October 5th, when the patient presented the usual characteristics of the third week of typhoid. On the 7th the evening temperature was 103.5° F. At this time chlorin treatment was begun. Normal temperature was reached on the 9th and from that time on until the 19th his temperature never reached 100° and was generally about 99° F. On the 19th there was a sudden rise to 103° F. and a very careful examination of the abdomen and the general symptoms showed no cause for it. Inasmuch as a rise of this kind is extremely rare when the patient is under chlorin treatment and is never due to any recrudescence of the disease but to some accidental or complicating condition a very vigorous search was instituted and it was found in a phlebitis of the left femoral vein. Under appropriate treatment this subsided gradually and the patient was entirely well in the early days of November.

From these and a very considerable number of patients whom I have seen I believe that there is in medicine nothing more striking than the clearing up of the tongue, the improved mental condition, and the lessened local disturbances and the general betterment which chlorin brings about when administered to these patients presenting the severer forms of the disease. I have presented these histories very briefly for the sole purpose of pointing out that the use of this remedy is not contraindicated by the severity of the disease nor the hopelessness as regards the patient's recovery. These have been, in fact, the most severe instances of typhoid fever which I have seen in the last twenty years. After four years of observation I am ready to reiterate the conclusions which I presented to you in my former paper, *viz.:*

1. That in the treatment of typhoid fever chlorin can be safely administered until complete disinfection of the alimentary canal is obtained.

2. Under its use the tongue becomes cleaner, the appetite and digestion better, the fever lower, and the stools devoid of odor save that due to chlorin.

3. The general strength, intellectual processes, and nervous conditions improve.

4. The disease is shortened in duration and the patient usually proceeds to a rapid and complete recovery.

THE TREATMENT OF HEADACHE.

BY JOSEPH COLLINS, M.D.,
OF NEW YORK;
PROFESSOR OF NERVOUS AND MENTAL DISEASES IN THE POST-GRADUATE MEDICAL SCHOOL; VISITING PHYSICIAN TO THE CITY HOSPITAL.

(Continued from page 134.)

THE variety of headache known as habitual headache, or idiopathic headache, has very little in its location, or in the character of the pain to differentiate it from neurasthenic headache, and as has before been said, it is not improbable that it is in reality a manifestation of this disorder, although usually none of the somatic or psychical concomitants of nervous exhaustion are to be found.

Traumatic headache is so obviously dependent upon injury, and so usually attended with its objective accompaniments that it requires no further mention. When persistent and rebellious to treatment, its association with localized pachymeningitis, or even graver diseases of the intracranial structures should be borne in mind.

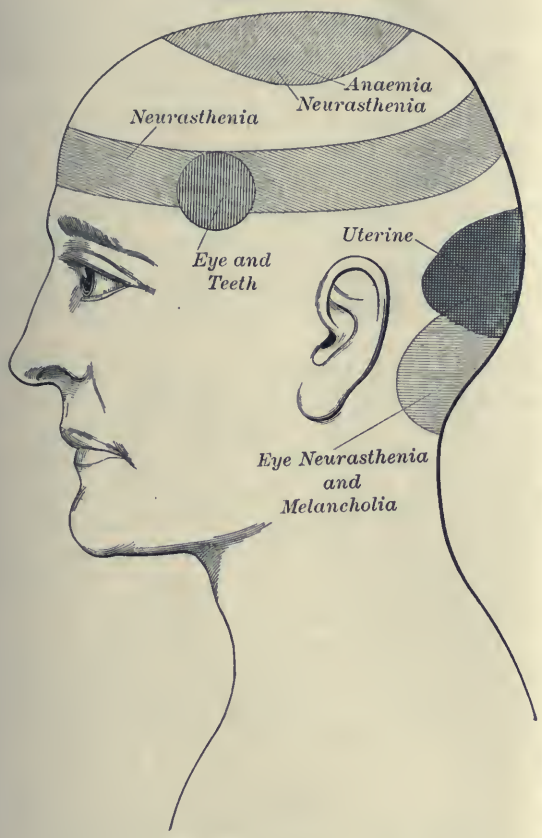
Rheumatic epicranial myositis is of more frequent occurrence than one would be lead to suppose from the scant reference to it in the literature. It is accompanied by headache and the same features as myositis in any other part of the body, and by such it is to be diagnosticated.

Much help in the proper interpretation of headache may be obtained from a careful consideration of its location. Not that headache due to an individual cause, such as eye-strain, for example, is always referred to the same area in the head, but if an average of all the cases of headache associated with such a condition is taken it will be found that the pain is localized by the sufferer either in the frontal or the occipital region. Instead of giving verbal description of the location of headache as a diagnostic indication, use is made of the accompanying diagrams (Figs. 1 and 2), which are based on diagrams originally published by C. L. Dana. It should be borne in mind that these are somewhat schematic, and that the headache of a given area does not necessarily confine itself there, or manifest itself there on every occasion.

After all that has been said concerning the character, duration, seat, intensity, and diagnostic significance of headache, it may seem superfluous to pursue further the subject of diagnosis, but as the correct interpretation of headache is of paramount importance in determining the successful treatment, it may not be amiss to say a few words more on this important phase of the subject. After the symptom has been considered from the points of view that have been mentioned, the

eventual diagnosis should be reached by process of exclusion. The first thing to do is to exclude the cephalic pains of neuralgia and of migraine. The pain which we speak of as neuralgia of the trigeminal nerve, and of the occipital and the upper branches of the cervical nerves is to be distinguished, first, by its location in these nerves and along their course; secondly, by the character of the pain, which is often of a sharp, unbearable kind, relatively persistent; that is, without periods of intermittency, and continuous for a long time; thirdly, by a sensitiveness of the epicranial structures, including the hair, to which these nerves are distributed; and, fourthly, by the fact that this variety of cephalic pain is almost always relieved, temporarily at least, by hot applications.

Fig. 1.



Showing approximate locations of pain in headache.

Migraine is to be distinguished by the location of the pain, usually confined to one side of the head; by its association with nausea or vomiting; mental depression; vasomotor disturbances of the face, either flushing or pallor; hemianopic obscuration of vision, by flashes of light, phantasmagoria, or scotomata; vertigo; ringing in the ears; and occasionally with paralysis of one of the oculomotor nerves, all of which symptoms are made worse by the slightest physical or mental effort. They are often ameliorated, especially in overworked and intensely neurotic people by taking small quantities of predigested or easily assimilated food and by diffusible stimulant in small quantities.

After the neuralgic pains and migraine have been excluded, it becomes necessary to establish the fact that the cephalalgia is not due to disease of the epicranium and of the cranial bones and their cavities, such as rheumatic myositis, periostitis, caries, inflammation of the frontal sinuses, etc. The first can be excluded by the local manifestations and by the association of other symptoms of rheumatism and uricacidemia. Caries of the cranial bones and periostitis, be they syphilitic or traumatic, will be accompanied by etiologic or symptomatic features that distinguish them, while the location of headache due to catarrh of the frontal sinuses, its association with disordered intonation, and its accompaniment of unilateral nasal discharge, will prompt the diagnosis. The headache of ethmoiditis, which is more common than generally supposed, is generally of a neuralgic nature, located in the frontal and intra-orbital regions, and accompanied by unilateral or bilateral swelling which is palpatable on either side of the root of the nose.

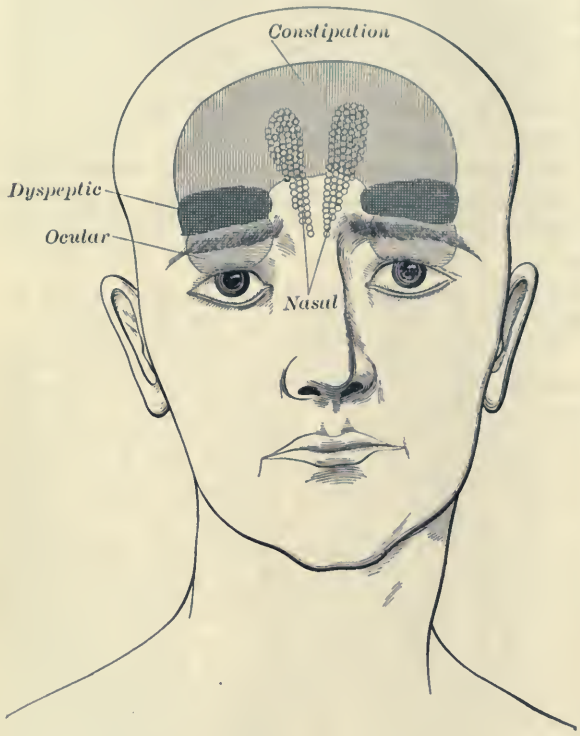
Because headache is often the initial and the most conspicuous symptom of disease of the brain and meninges, painstaking care should be taken to exclude these diseases. Although headache is weighty above everything else in suggesting the presence of such disease, it is only when in association with vomiting, delirium, vertigo, convulsions, spasticity, nuchal rigidity, paralysis, and inflammation or atrophy of the optic nerve determined ophthalmoscopically that it has such dread import. After the process of exclusion has been brought thus far in the estimation of the kind of headache, it behooves us to give consideration to the organs of special sense, particularly the eye and the nose, and to determine if there be anomalies of refraction, muscular insufficiency, or organic disease of the eye, such as glaucoma, on the one hand, or anything encroaching on the nasal passages on the other.

Finally, the circulatory apparatus and the blood should be investigated, after which sources and evidences of intoxications and infections, both within and without the body, are passed in review, leaving for final consideration the elimination of the neuroses, neurasthenia, epilepsy, and hysteria. It is not unlikely that when one is done with this painstaking process he will find that the last one considered is the category to which the headache belo ngs. Having his labor for his pains, he may console himself

with the German proverb: "Uebung macht der Meister."

Considering all that has been said concerning the multifarious causation of headache and the extremely disparate conditions under which it occurs, it is not at all surprising that no individual or specific method of treating it exists. There is no ailment in the domain of medicine that requires more careful, searching investigation to elicit its causation and nature than headache. In order to treat it successfully, the physician must determine the morbid indicativeness of the symptom, then adopt measures which combat it. There seems to be a sort of traditional belief that certain drugs are more or less

Fig. 2.



Showing approximate locations of pain in headache.

specific for headache. Implicit credulity of this kind accounts in part for many uncured headaches. At the present day, when it is so easy to relieve pain temporarily by the administration of common analgesics, the temptation of the physician is to prescribe in routine fashion some of these temporizing agencies, reposing confidence that Nature will do the rest; while the habit of the patient is to go to the drug-shop and buy a headache powder. Although it is a just and legitimate procedure to quell pain promptly and at all hazards, it is no less incumbent upon the physician to strive for the prevention of the recurrence of such pain. The treatment of headaches offers a splendid field for the indulgence of such endeavor, and he who contents himself with giving phenacetin, antipyrin, the bromids, and the like, without seeking the ulterior cause and attacking it is predestined to failure, while doing both the patient and himself an injustice. The first duty when confronted by a patient suffering from headache is to determine to which of the four categories enumerated in the beginning of this article it belongs. Is it migrainous, neuralgic, symptomatic, or idiopathic headache? It is extremely necessary to make this distinction, for although the treatment of one variety may not be absolutely dissimilar to that for the other, the recognition of its belonging to one of these classes may immediately orient one not only in regard to treatment, but as to prognosis as well. The next step in the treatment is to determine the disease of which it is a symptomatic accompaniment. Then its treatment can be legitimately undertaken. To pass in review, even though briefly, the measures that have been recommended for the relief of this common disorder would be bewildering and unprofitable. I shall, therefore, speak only of measures with which I have had personal experience.

In brief, the treatment of headache presupposes the correct etiologic diagnosis, which in turn depends upon a searching examination of every system of the body, and especially those that experience has taught us to stand in frequent relationship to this symptom, and the utilization of temporizing measures. The latter are of very great value, and, fortunately, few in number. They may be conveniently referred to in four groups:

1. Drugs that are derived from coal-tar distillation and synthetically, possessed of analgesic properties: phenacetin, trophenin, exalgin, salol, and combinations of these with alkalis, such as antikamnia, etc.

2. Drugs that are plant derivatives, acting principally upon the vascular system: caffein, cannabis indica, opium, etc.

3. Mineral compounds, such as the bromids, acting principally upon nerve-cells, and the salines, acting upon the circulatory fluids to produce watery evacuations.

4. Antispasmodics, and paralyzers of striped muscular tissue, such as etheral substances and belladonna.

It is often necessary to give one or more of the constituents of these four classes; it matters not what the form or causation of the headache may be. Speaking generally, it may be said that those of the first class may be relied upon to produce an amelioration of the pain in all headaches, save those due

to inflammatory disease, and to pressure. Those of the second group are particularly serviceable in headaches accompanied by marked deviation of blood pressure, caffein being the symptom medicine par excellence in headaches associated with lower vascular tension, and cannabis indica in those associated with a pulse of high tension.

The symptom medicines in the third group have a much more confined application. The class represented by the bromids have their chief use in epileptic headaches and headache with vasomotor symptoms, while the salines are narrowly confined in their usage to the headaches of auto-intoxication. The drugs of the fourth-class are of use principally in headaches associated with spasmodic and fatigued action of peripheral muscular apparatus.

Unquestionably, the common form of headache that the general physician is called upon to treat in this country to-day, is, I think, that associated with the exhausted and irritable condition of the sympathetic and cerebrospinal systems known as neurasthenia. It is a variety of headache that is difficult to cure, especially the forms that develop in early life, and for which there seems to be no adequate determinable cause. These cases represent an inborn tendency toward neural instability. Headache which is a symptom of the neurasthenic state occurring in adult life and from determinable causes are usually very amenable to treatment, while those occurring in later life, particularly if they are the expression of a second or third attack of neurasthenia, are very rebellious. The treatment of these headaches is the removal of the causes and the adoption of measures directed immediately to the relief of the neurasthenic state. These measures comprise intelligent rest, exercise, change of environment, which may mean simply change from home to a boarding-house, or vice versa, increase of nutrition through diet, and hydric applications, and in some cases the use of massage and electricity. To take up in detail each one of these measures would be beyond my purpose. I shall refer only to the use of water, as this is the measure which is probably least understood. It is difficult to state in a few words the form of hydric procedure most beneficial to neurasthenic patients, but as a general rule it may be said that the application of water from 80° to 50° F. to the chest, abdomen, and back, from the hollow hand of an attendant, combined with friction during the application, and after the application if the patient does not react well, is the safest and most serviceable way of utilizing water when no apparatus is at hand. Where access is had to a hydriatic institute, it will be found that best results are to be had from the use of the ordinary douche, with water of 85° F., lowered one or two degrees each day until 50° F. is reached, and from ten- to twenty-pounds' pressure, followed by a Fleury spray, the water being of about the same pressure and temperature. The precaution should be taken to dilate the peripheral blood-vessels and start the sweat-glands to slight activity by incasing the patient's body in a hot box for from two to five minutes before the douche, making him walk briskly for from five to twenty minutes in the open air after the spray. Headaches, associated with increased vascular tension, flushing of the face, and throbbing sensations in the head, are often relieved by cold applications to the head, by wrapping the head in linen wrung out of cold water, and by the administration of a sitz bath, half bath, or a derivative foot bath. Neurasthenic headaches, associated with sleeplessness, are in my experience more quickly and wholesomely influenced by a full warm bath of from 96° to 102° F. to which from one to two ounces of pine-needle extract is added, and given just before retiring, than by any other measures. By a seeming contradiction in terms, rest for the neurasthenic patient often means considerable physical exercise, and the advent of golf and bicycling as fashionable indulgences have marked the rocks and bunkers on which many a neurasthenic headache has been shattered. The treatment of functional symptomatic headache, be it neurasthenic or hysterical, by electricity is not a fruitful subject for discussion. Occasionally headache of this kind that maintains stubbornness to every form of therapy succumbs to sparks from the static machine administered through a coronal electrode. Occasionally, also, the administration of a very mild galvanic current of from one-half to one milliampere and of five-minutes' duration, the positive pole at the back of the neck, the negative pole over the forehead, has been of some service in the headaches occurring with the repressed form of neurasthenia. The effect of the electricity is, I believe, to be attributed to suggestion. The medicinal treatment of neurasthenic, hysterical, and epileptic headaches is not so important as the general treatment save in the latter disease. In neurasthenic headaches associated with low vascular tension, caffein, either alone or in combination, gives excellent results. The following formulary I find particularly useful:

℞ Caffein citratis . . . . . gr. v
Sodii bromidi . . . . . gr. x
Sodii bicarb. . . . . gr. x
Pulv. acid. tart. . . . . gr. x.

M. Ft. pulv. No. 1. Sig. Take in water while effervescing.

Or,

Caffein salicylatis		gr. i
Ammonii salicylatis Phenol salicylatis	aa.	gr. v.

M. Ft. cap. No. 1. Sig. One capsule every three to four hours.

Or,

Caffein pur.	gr. ss. to gr. iss
Phenacetin	grs. v.

M. Ft. cap. No. 1. Sig. Take with hot water and repeat in one hour if necessary.

As a general pick-me-up and diffusible stimulant for neurasthenic headache, especially of women, the following prescription has served me well:

Ammonii carb.	ʒ iii
Tinct. sumbul	ʒ vi
Spts. lavandulæ	℥ i
Elix. ammonii valerian. ad.	℥ viii.

M. Sig. Two teaspoonfuls every three hours in water.

Naturally these remedies are symptom medicines and they suffice only for amelioration and temporary cure. The administration of general tonics and nervines should not be neglected. One of the most satisfactory mixtures that I use in the depressed forms of neurasthenia, especially neurasthenic and anemic headache, is as follows:

Zinc. phosphatis	gr. ¼
Ferri. redact.	grs. xx
Extract nucis vomicæ	grs. ii.

M. Ft. pill No. 8. Sig. One pill two or three times a day.

In headaches of a similar nature accompanied by a greater disturbance of the emotional life, that is, headaches having the character of neurasthenic headaches occurring in hysterical people, the following formulary can be recommended after a number of years' experience:

Zinci valerianatis Ferri sulphatis Ext. rhei. Asafœtidæ	aa.	℈ i.

M. Ft. pill No. 20. One pill three times a day.

Before taking leave of this part of the subject I wish to say one word concerning the use of bromids in the headaches of neurasthenia and hysteria. It will be remarked, no doubt, that very little mention has so far been made of the salts of bromin. And this for the reason that it is my belief, as it is the belief of many neurologists, that bromids have been done to death in these disorders. I have no intention to deny the utility of the bromids in certain forms of neurasthenic and hysterical headache, for personally I make some use of them; but nothing has been more impressed upon me from my intercourse with physicians of experience than the fact that the abuse of bromids, especially in functional nervous diseases is one of the burning evils of the time. There is no disease, with one and possibly two exceptions, these being epilepsy and migraine, in which it is justifiable to administer bromid for any considerable length of time. Nevertheless, it cannot be denied that many practitioners are either unwilling to subscribe to this view or they are heedless of such advice. There are certain cases of neurasthenic headache, especially those associated with general erethism and anorexia nervosum in which the administration of bromids for a few days is extremely serviceable and one or the most popular prescriptions at my clinic is the following, known as mistura nigra:

Sodium bromid	℥ ss
Pepsin scales	℈ ii
Pulv. veg. charcoal	ʒ iiss
Glycerin	ʒ ii
Spearmint water ad.	℥ iii.

M. Sig. Teaspoonful two or three times a day, after meals.

(To be continued.)

SPECIAL ARTICLES.

THE MEDICAL NEWS' INVESTIGATION INTO THE CLAIMS OF CHRISTIAN SCIENCE.

BY JOHN B. HUBER, M.D.,
OF NEW YORK;
ASSISTANT TO THE CHAIR OF PRINCIPLES AND PRACTICE OF MEDICINE IN THE NEW YORK UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE.

(Continued from page 143.)

CASE XVIII.—Unmarried woman, aged forty-one years. Mother, now living, has been a sufferer from stomach trouble; after some time this trouble "went to her head." As a child the subject had gastric attacks and once membranous croup. During her fifth year she fell from a height and struck on the back of her head. When eight years old had spinal disease; severe pain between the shoulders and in occiput and in limbs when going upstairs. When aged thirteen had gastric attacks. In 1897 was treated by Dr. A. (R.) all winter. Symptoms generally began with water-brash; on dieting this would pass off. There was dull pain in gastric and umbilical region. She got along nicely under Dr. A. and discontinued treatment in April, 1880. Then she went to Brooklyn to live, where she went into collapse. In 1880 she was in a runaway and broke her arm; for five years after repair of fracture had arm massaged. Then more spinal trouble; cauterization was advised, but she would not consent to it. In 1882 she went abroad, having mental trouble and nervous prostration. During two years abroad she was better. On her return her stomach was as bad as ever. In 1887 she visited Dr. B. (H.) for irregular and painful menses, etc. After this she went to California where she felt well except for her back and a sore throat. Here heard of Christian Science, but did not take it up. In February, 1888, because of intense supra-orbital and orbital pain she consulted Dr. C. (R.) who examined her eyes and prescribed glasses, which she wore. They helped her sight but not her pain.

Distress in back got worse. In 1889 went into Christian Science; after ten-days' treatment she took off the glasses and has not worn them since. At first her eyes pained her; now they do not. Otherwise she feels well.

Dr. A. writes: "I took no notes of Miss X's. case at the time when she consulted me as she had no other than functional derangements with more or less hysterical accompaniments. She was inclined to exaggerate her symptoms and altogether was one who would very probably be cured by the right faith-cure."

Dr. B. has no notes and an indistinct recollection of this case; considers she must have been "a rounder."

Dr. C. writes: "Complains of pains in eyes and head. Has suffered and is suffering from extreme nervousness (neurasthenia). Eyes myopic; with correcting glasses has $\frac{20}{30}$ vision on each side. Atropin used and with correcting glasses vision $\frac{20}{20}$ on each side. Liked her glasses and was not seen again. Diagnosis: Myopia each side; no complications; general neurasthenia."

CASE XIX.—Druggist, aged about thirty years. Has been in Christian Science since February, 1897. Heard his wife read "Science and Health" and felt guilty. Had had "beliefs" of swearing and smoking; since having heard this reading he neither swears nor smokes. Had a "belief" of piles; denied he had piles. "Was a child of God and couldn't have piles"; now does not have piles. Had constipation: used to take constantly ox-gall, cascara, pepsin, calomel, etc.; now does not take medicine and does not have constipation. Before going into Christian Science he had accumulated a "greater medicine-chest than most physicians have," and had a library of medical books to which he used to refer when sick. Since being in Christian Science has thrown away or disposed of these and is now well with the exception of one thing. He had worn eyeglasses prescribed by Dr. A. for six years before going into Christian Science. He had had supra-orbital headache and difficulty in reading. Since February, 1897, he has not needed glasses and has no distress in reading. Once in a while he has severe frontal headache; he has not yet been able to get rid of this "belief"; this becomes worse when his mind is disturbed.

[Is still in the drug business, however.]

CASE XX.—Wife of subject of Case XIX, aged twenty-eight years. Married at the age of seventeen; first child when eighteen. Had been torn at this birth; nine months after Dr. A. (R.) on examination found the womb much enlarged. Was then much run down, but after nine-months' treatment by Dr. A. was in fair condition. Then at the age of twenty-one second child was born; cold in the breast and peritonitis followed this birth. Topical applications were made; "solution of acid" put in womb and as a result felt cold and rigid; was purple in face and hands; great pain. Then went to hospital where she was operated upon for laceration of the womb. After this she went for treatment to this hospital twice a week, where topical applications were made. Then got an idea she had some stomach trouble. Then learned from Dr. C. (R.) that ovaries were misplaced. Electricity was used and another operation advised by Dr. C.; this she would not consent to. During the summer of 1896 had nervous prostration. In February, 1897, she went into Christian Science and became perfectly well after eleven treatments in three weeks. Her two children had measles at one time; healed them herself by Christian Science in four days; at another time they both had mumps; healed them both in four days. No isolation in either case.

All these cases were chosen by Christian Scientists; no doubt then they are among their "good" cases, and I presume I have not been offered any of their "failures." I have examined all the subjects and rejected none of the cases offered me. Many others refused to state their medical histories, not unjustifiable in my opinion, since in every case I stated my expectation that the histories (without names) would be printed. A number made engagements which they did not keep. The reticence of some seems to be quite without justification. For instance, on November 2d a man arose in an "experience" meeting which I attended and stated that he had been one of a party of about twelve who, while in Central America, contracted yellow fever, he having suffered with the rest. All took medicine but himself; instead he read "Science and Health." Among these men seven died; he recovered completely. Later I called at the church and asked for the name and address of this gentleman, and twice the clerk promised to send me his address. Not having received it I called again about November 21st and asked again. The clerk told me he had not of late seen this elusive Scientist and could not obtain his address.

Another instance: I had been told that a young lady living out of town had been "healed" of consumption. I wrote her mother, who sent me a kind note inviting me to call several evenings later and enclosing a time-table, etc. She said: "I shall be happy to give you any information in my power as Christian Science has been a great blessing in my family." Before the appointed evening I received a note breaking the engagement. Again: At an "experience" meeting which I attended a man arose and declared he had cured a case of locomotor ataxia to such an extent that the patient's two former physicians had been lost in amazement at the change. I learned also that his wife, another "healer," had cured a case of cancer of the tongue. I wrote this gentleman and he sent me an answer kindly inviting me to call at his house. He lived out of town. I went to his house and spent the greater part of an evening trying to prevail upon these two people to show me or to introduce me to these subjects of locomotor ataxia and cancer of the tongue. They utterly refused to do so. Their line of argument was quite of the same sort as that contained in the letter of their better-known "brother in the church" which appears in the first part of this paper. I was not making an investigation in the right way. What I ought

to do was to study "Science and Health" and the other elucidatory works—above all with an obedient spirit—and "the truth" would come to me in time. Or possibly this pair of "healers" had in mind this reasoning, not new in my observation: In the mind of the Christian Scientist the locomotor-ataxia patient was healed, but his "healer" withheld him from inspection by the deceptive senses of those outside the pale of Christian Science, to which senses the patient might appear to stagger about and be as ill or more ill than she ever was before.

Following is a copy of this "healer's" letter:

"MY DEAR DR. HUBER:—I received your letter with Joy, and name next Monday eveng as a time to give you for your enquiry into the workings of Truth as it has come under my notice. Our field is a broad one coverig several towns, and we have not lately had an eveng free for discussin the subject coverig this sublime and stately Science That leads into all Truth even to the solving of the problem of Being. The healing of the Sick is only the primary steps this step however is an important one as its demonstration with proof attests its divine origen even God—Good, its principle source and ultimates in Eternal Life. For the Life is in his Son and Divine Science reveals this son Even our own Christ our spiritual Individuality God being our Father and mother.

"Yrs. in Truth

"——— C. S."

Should not a person of this sort be compelled to pass some kind of a medical examination before being allowed to come near the sick?

Before concluding, the following observation will tend to illustrate the inherent dishonesty of this movement: One of these "healers" complained to me of the disadvantage at which Christian Science is placed in these times. Should one of their patients die the case must become a coroner's case and be subject to his investigation. A Christian-Scientist's certificate of death would not be accepted. Therefore, should they get into any trouble of this sort, they have to seek (and it is declared they sometimes find) an obliging physician who will get them out of their trouble by signing a certificate for them.

It is difficult to treat some aspects of this movement seriously; of others no criticism could, to my mind, be sufficiently condemnatory. Many of the dangerously sick are in the hands of these people. We are, therefore, I think, entitled to absolute frankness from them concerning their methods. This attribute I, for my part, have often found deplorably lacking. There are personal observations in this paper which are intended to illustrate the character of the movement; therefore I consider them justifiable.

Many Christian Scientists are undoubtedly good and worthy people; these demonstrate anew the well-established fact that mankind, generally speaking, displays an extraordinary readiness to be humbugged. Those in authority in Christian Science make it evident that they fully understand and know well how to reap the utmost advantage from this trait in human nature. If these people really have the good of human kind at heart they are certainly the most original truth-holders and truth-offerers that have ever appeared in the world's history.

The chiefest and the one essential attribute of those who have loved and have tried to lift up mankind has been absolute self-abnegation. And the greatest among these He, in whose garb these people are hideously masquerading, was the humblest and the most unselfish of them all. But consider the woman who is at the head of this movement. Besides the facts already stated to illustrate her sordid motives there are these: She has for many years been conducting a "metaphysical college," in which her pupils have paid a regular fee of three-hundred dollars for a two-weeks' course in order that they might, in their turn, reap the pecuniary benefits to be got out of this movement. She has with unspeakable presumption imitated the recorded healings of the Master, but, in a spirit wofully unlike His has exacted enormous fees for the exhibition of her alleged powers. She preaches the brutal doctrine that "no one has any business being poor." She is hedged in by "counsel" and other legal paraphernalia, and through this "counsel" must the outside world communicate with her. Such is the spirit dominating "Christian Science." What a contrast! On the one hand this movement; on the other the personality upon which it trades and of which it makes capital—that of "the pale, staggering Jew with the crown of thorns upon His bleeding head."

THE GARRISONING OF OUR TROPICAL POSSESSIONS.

No. 4.

THE HISTORY OF SPANISH MILITARY OCCUPATION. STATISTICS OF MORBIDITY AND MORTALITY.

BY SENECA EGBERT, M.D.,
OF PHILADELPHIA;
PROFESSOR OF HYGIENE AND DEAN OF THE MEDICAL FACULTY IN THE MEDICO-CHIRURGICAL COLLEGE OF PHILADELPHIA.

IN preceding articles I have referred to the dangers to which our troops will be exposed, and to the great necessity of employing every possible precaution to guard against them. It will be the purpose of the present article to show that the aforesaid statements are not exaggerated and, at the same time, to show how unable Spain was to cope with the morbific conditions, even though through her former experience she was well acquainted with them. The so-called Ten-Year's War that was be-

gun in October, 1868, by the armed revolt of the Cubans under General Manuel de Cespedes, is said to have cost Spain 100,000 lives, the larger part of which undoubtedly yielded to disease rather than to wounds received in war. But though knowledge of sanitary methods and of the means of combatting disease have greatly increased since the termination of this earlier conflict, and though the duration of the second insurrection, which began in February, 1895, and which has just terminated, was much shorter, conditions were scarcely, if at all, improved in the latter struggle, and Spain's sacrifices were comparatively even greater than before. As may be surmised, it is difficult at the present time to secure exact and reliable statements of the Spanish losses during the past four years, and I would accordingly acknowledge my indebtedness to the "Report of the Inspector-General (Losada) of Spanish Forces in Cuba," dated December 12, 1897, and to a summary of the report of Dr. de Larra Cerezo, Chief of Clinic in the Cuban hospitals of Madero and Alfonso XIII., published in a recent number of the London *Lancet*, from which, unless otherwise noted, the following data have been taken.

Even before the late contest began and in time of peace, Spain found it necessary to keep in Cuba a standing army of 14,000 men, of which a large proportion were constantly being disarmed by the climate. Some died, more were sent home, and others who recovered and became acclimatized were retained in service, but it was found necessary to assign these to garrison duty only, in which there was little fatigue and no exposure.

Then came the uprising early in 1895, and suddenly—within twenty-one months—200,000 soldiers were sent to Cuba, and within one or two months after their arrival one-half of them were invalided. In March, 1895, the only hospitals in Cuba were at Havana, Santiago, Santa Clara, and Puerto Principe, together with nine widely separated local infirmaries, in all of which the medical and sanitary corps of the army had at its disposal only 2500 beds.

To satisfactorily provide hospital accommodations for approximately 100,000 men in but little more than a year and in a foreign country would tax the medical resources of a nation even greater than Spain. With our knowledge, we may feel that better results than those to be related should have been obtained, but we must give credit to our Spanish medical brethren, who were doubtless much hampered and harassed by military and economic exigencies. By January 1, 1898, many new hospitals had been erected, and there were 46,685 beds in them to receive the sick, and of the 600 surgeons engaged between the outbreak of the rebellion and the middle of 1897, at least 50 died in the pursuit of their duty, most of them victims of yellow fever.

Dr. Cerezo says: "The statistics of the Alfonso XIII. Hospital (of Havana) for 1897 showed a great reduction from those of the former years in the death-rate from yellow fever, but an increase in deaths of a general medical nature, probably on account of the lowered health of the army due to the bad climate and the hardships of the campaign. The deaths due to wounds were also comparatively less. The great evil results from the anemic condition of the troops, and though the figures relate to but one hospital, still they may be accepted as typical of all the military medical services of the island."

From March 1, 1895, until April 1, 1897, nearly half a million patients were treated in these hospitals, *viz.*: March to December, 1895, 49,485; deaths, 3200. 1896, 233,714; deaths, 10,610. January to June, 1897, 201,247; deaths (January to March), 3691. In the military hospitals alone the yellow-fever patients numbered 35,250 (of whom 11,347 died), and "many more sick with this disease were treated in civil hospitals, camps, towns, and villages, forts and private houses, and even in sugar refineries."

The following record of the yellow-fever patients treated in hospitals and infirmaries for the respective years shows that in its ravages and results it can be "more fatal than bullets."

Year.	Cases.	Mortality per cent.
1880	1470	37.85
1883	1285	45.34
1885	120	55.
1886	130	26.92
1894	859	32.82
1895	7085	39.46
1896	23,580	30.99
1897 (5 months)	4636	27.20

Other statistics from the same source—Dr. Cerezo's report—are as follows: Number of wounded nursed in hospitals, 1895, 1989; 1896, 7270; 1897 (part), 2643. The total deaths in the army from March, 1895, until May, 1897, were 22,497. [1] During the past year 32,000 Spanish soldiers died in hospitals, and 30,000 were invalided home.

In April, May, and June, 1896, there were 3193 cases of dysentery with 351 deaths, 2903 cases of typhoid fever with 576 deaths, and 2281 cases of tuberculosis with 299 deaths treated in the hospitals, in addition to which there were also 79,552 cases of malarial fever severe enough to need and receive hospital treatment in 1896-97.

It must be remembered that these figures are only partial and fragmentary, for it was most difficult to secure and keep accurate accounts at this time, and, besides, there were many thousand other cases of illness in men too far away to be sent to the hospitals.

Such as they are, however, they serve to indicate the task that our Government has before it. It is true that our troops will be in a presumably friendly rather than a hostile country, that they will have no enemy harassing and attacking them, that they will be comparatively near to their bases of supplies, and that Anglo-Saxon is not synonymous nor comparable with Spanish management of affairs. But no one can deny that the dangers of disease are still rife throughout the whole island of Cuba and that the statistics presented in this and my preceding articles show that only the greatest vigilance and best sanitary

[1] *Lancet*, 5-28, p. 1492, 1898.

management can protect our garrisons from serious disasters. Many will doubtless fear that safety is impossible of attainment and that, if not immediately, as soon as the wet season returns we shall have reports almost, if not quite as depressing and grave as those that came from our men at Santiago last summer. Certainly this would be the result of ignorance, lack of foresight, or of inaction—all inexcusable.

The etiological factors of each of the threatening maladies are sufficiently well known or understood to secure a large measure of prevention, and from all reports received there can be only the most satisfactory results following upon general and well-directed sanitary work throughout the island.

We can analyze the statistics we have at hand, we can be warned and guided by Spain's and our own experience; we can employ the scientific knowledge that we already have and be informed by the advice that Colonel Waring left us, and the results that Dr. Wood has so satisfactorily attained.

Inspector-General Losada of Spain, in his report already referred to, attributes the great death-rate and sick-list in the Spanish Army to three factors, *viz.:* To the fact that the clothing of the troops was not adapted to the tropical climate, to fatigue, and to lack of proper food; and from this the *Lancet* draws the lesson that it is always wise and necessary to have the sinews of war in adequate supply, and to make due allowance for climate, whether tropical or subtropical, which may prove as destructive as the enemy in action.

Indeed, the case is by no means hopeless. If the preceding statements seem to indicate invincible perils we should arouse every one to their importance. The purpose of these articles is to show how some of them, at least, may be conquered. We have already referred to the sanitary conditions formerly prevailing in Jamaica and how they have improved under British management. Statistics are not necessary to substantiate this, but it will be interesting to simply note that in 1897, at the time when the Spanish hospitals in Cuba were full to overflowing and disease was rampant everywhere, the death-rate for Jamaica was but 24.2 per thousand, ranging from 19.4 in Manchester Parish to 29.2 in Kingston Parish, and that on January 31, 1898, the Acting Governor of Jamaica reported the island to be entirely free from yellow fever.

I may also refer to the statements of Professor Guiteras in the *Philadelphia Medical Journal* of last spring that it is possible to prevent the infection of military garrisons with yellow fever and that the chief dangers lie in the communication of the troops with, or the receipt of supplies from, infected places.

He said: "Yellow fever is circumscribed within certain areas and if it is possible to keep troops away from these areas there will be little danger of infection. There are places (in Cuba) where there is no yellow fever. In some places on the coast (as well as in the interior) the disease is not to be found. As a general rule, the more important a place, the greater its commercial activity, the more infected it is. A congregation of people in the interior could not originate yellow fever. Still the disease may be carried to a garrison from an infected town. To guard against this the troops must be placed by themselves in uninfected places, and they must not communicate with infected places. Then, too, no depot of supplies should be placed in an infected port. This is, of course, a desideratum that it may be difficult to obtain for strategic reasons. Ideal conditions are not always possible in a military campaign."

In the *Atlantic Monthly* for December three separate writers, well informed and who have made a special study of the conditions, express their belief that self-government by the present inhabitants of our newly acquired tropical possessions is thoroughly impracticable for many years to come, perhaps forever, and that this country will accordingly have to maintain authority and accept and continue in supreme charge of affairs.

Whether we individually believe in the policy of national expansion or not it is evident that it behooves the Government, if the above views are in any measure correct, to give some thought of permanence to whatsoever sanitary plans or methods it may adopt for the welfare of the army. And perhaps it will be better so, for, if it is probable that the garrisons will have to be maintained for a long time—many years—there will be the greater willingness to provide the necessary funds for all that makes for their comfort, contentment, or health. Barracks, water-supplies, drainage-systems, etc., will all be better planned and better constructed if they are to be for more than temporary use, and other hygienic problems will be the easier of solution.

One caution remains. The large cities of Cuba need immediate and the most thorough sanitary attention. We all rejoice that the recommendations that Colonel Waring was about to make to the Government in relation to the sanitary reclamation of Havana are now available for our consideration. Measures will probably soon be taken to put them in force. Let us hope and urge that in the praiseworthy zeal and eagerness to improve the conditions of the native residents, who are more or less acclimated and accustomed to their unhygienic environment, we do not forget or neglect the interests of our own men who will be far more susceptible to infection and deterioration of health. They should have the first thought and should be made to feel that the dangers of their duty are fully appreciated by the rest of us whom they serve.

MEDICAL PROGRESS.

"Sleeping Sickness."—MANSON (*Brit. Med. Jour.*, December 3, 1898) has had under treatment at the Charing Cross Hospital, London, two negro boys from the Congo Valley, who have had "sleeping sickness" for some months, and were brought to England for treatment. Thus far the disease is known to occur only in negroes and half-breeds, and only in those who are living or have lived in West Africa, between Senegal and Loanda. In this district it attacks different villages in epidemic fashion. All who contract the disease die from

it. It has been known to develop in negroes from this Congo region as much as seven years after they had left the country, but in no instance has it spread to other negroes who were not from the Congo. The chief symptom is a mental vacancy, gradually increasing until the patient has to be roused to be fed, associated with muscular weakness, enlarged lymphatic glands, and usually, pruritus. There may be irregular fever. As the disease progresses the patient becomes bedridden, and muscular spasms and contractions develop, death resulting from them or from diarrhea or bed-sores. The average duration is about nine months, though the fatal termination may be delayed for two or three years. The etiology is not known, but the occurrence in the blood of both of these patients and in one previously received in London of a parasite called filaria perstans suggests that it may produce the symptoms described. The history of sleeping sickness and its occurrence only in a certain district, while it may develop after years in those who have lived in that district, points to the fact that it is due to a germ which must pass one stage of its existence in some plant or animal which grows only in that particular locality.

With commendable zeal Marston procured slides of blood of hundreds of natives of different parts of Africa and other tropical countries. This filaria he found in the blood of those who live in Congoland, and in two other parts of West Africa. In these districts more than fifty per cent. of the specimens of blood obtained from a large number of negroes contained this parasite. It is, therefore, necessary to explain why all the negroes so affected do not have the sleeping sickness. The reason for this, Manson suggests, may be that the parasite is comparatively harmless until it either enters the brain or interferes with its nutrition. In several autopsies there have been found lesions in the pituitary body. No efficacious treatment is known. Both of the patients under treatment were suffering from round worms and ankylostomata when they reached London. They grew a little brighter when their intestines were cleared of these parasites, but the improvement was only temporary, and the real disease has steadily progressed.

Pathogeny of Enteroptosis.—ROSENGART (*Rev. Gen. de Path. Int.*, December 5, 1898) has been brought by the researches which he has made to the opinion that enteroptosis is a returning of the abdominal viscera to something like the positions which they occupied in fetal life. All the causes which depress the diaphragm, as well as all of those which relax the abdominal wall, tend to push down the liver to its fetal position. Thus gastroptosis is found in individuals with curvature of the spine, or long narrow thoraces which have ossified too soon, as well as in those who suffer from emphysema or phthisis. He also blames the corset in women and tight belts in men. With the sinking of the liver the stomach also sinks, especially its pyloric end, and the ascending colon being compressed, exerts its action on the right kidney. Hence, the right kidney is frequently loosened, while the left is seldom affected.

Mucomembranous Enterocolitis.—DE LANGENHAGEN published a monograph on the above subject, of which a review appears in the *Rev. Gen. de Path. Int.* for December 5, 1898. The exudates may be glairy, amorphous, or membranous. The seat of the trouble is the whole extent of the large intestine, rarely the lower end of the ileum. The lesions are always superficial and catarrhal. There are numerous bacteria in the discharges, especially the bacillus coli. There is constipation, alternating with false diarrhea. There may be hemorrhages apart from hemorrhoids of half a pint or a pint. There are sharp pains, and often paroxysms simulating peritonitis. Sometimes a grave condition results, especially in children, marked by vomiting, fever, and occasionally, purpura. Palpation of the abdomen gives a peculiar sensation, due to the atony of the intestinal walls, which the author describes as "cloth-bowel" (*l'intestin-chiffon*). Sometimes the atony gives place to spasm, and there are besides modifications of caliber, so that one may sometimes observe alternating dilatations and contractions. Palpation of the cecum often provokes gurgling. The liver is ordinarily retracted. Nephroptosis on the right side is the rule. Ptyalism and superficial inflammation of the mucous membrane of the mouth, gastric dyspepsia, and dilatation of the stomach are also common symptoms.

Among the complications frequently observed were acholia with discoloration of the feces, pseudoangina, asthma, and vasomotor troubles. Above all should be mentioned intestinal lithiasis, which is always accompanied by mucomembranous enteritis. There is no connection between this trouble and appendicitis. In the 130 cases studied there was no instance of appendicitis. Neurasthenia and hysteria were common. The evolution of the disease comprises two stages: enterocolitis pure, and the same associated with enteroptosis. It is of a neuro-arthritic nature. The minimum duration of treatment is three years, and cases may hold on from five to twenty years. Children are often attacked, and women are more susceptible to the disease than men. After giving details of the diet, the writer speaks of the best means to combat the constipation (castor-oil in small doses and cascara) and of calming pain (hot applications), and describes the technic of enteroclysis, which he has found to be most serviceable.

Bactericidal Action in the Mouth.—HUGENSCHMIDT (*Centralbl. f. inn. Med.*, December 10, 1898) tested the action of human saliva after passing it through a Chamberland filter, in order to free it from all germs, and found that it then had no bactericidal power worth mentioning. The saliva has a chemotactic influence on the leucocytes which leave the numerous lymph-vessels of the mucous membrane of the mouth and throat in consequence of this influence and mix in the saliva. Their phagocytic power makes a bactericidal agent of the saliva. Perhaps even a more important protection against the entrance of pathogenic germs through the mouth into the system is found in the great numbers of saphrophytes in the mouth, which find in the saliva a better medium for their growth than do the pyogenic organisms, and which, therefore, outgrow the latter.

An Emulsion of Mixed Fats.—RUSSELL (*Post-Graduate*, December, 1898) tested emulsions of eleven different fats in order to ascertain whether they would increase the weight of a patient taking them, and whether they would allay cough. Some of them he found to be deficient in both particulars, some of them to be variable, in which class was cod-liver oil, and some of them constantly fulfilled both requirements. The best ones were beef-fat, olive, cocoanut, and peanut oil. These were tried further, and it was found that each lost its effect after a little, so that by alternating from one to the other more good could be derived. So in order to give the system the advantage of a variety of these four fats, they were mixed together in an emulsion to which a little clove oil was added. This emulsion he considers far superior to an emulsion of cod-liver oil, and has found by trial that it is well borne in febrile conditions.

THERAPEUTIC NOTES

Treatment of Erysipelas by Heat.—RABINOWITSCH (*Rev. de Therapeut.*, November 15, 1898) treats patients who have erysipelas in the following manner: The affected portions of the skin are covered with moist gauze over which is passed back and forth a lighted cotton swab soaked in alcohol until the pain is beyond endurance. This "cooking" of the inflamed skin is repeated three times in the twenty-four hours. The result is an intense local inflammation, sometimes with the formation of blisters, especially so if there were already a few blisters before the treatment was commenced. If the extent of the erysipelatous process is very great, the author contents himself with the heating of the marginal regions. The results were very good indeed. In many instances the pathologic process was aborted in twenty-four hours. In general, however, seven days were required to complete the cure. More than 200 patients have been treated in this manner by Rabinowitsch.

Combined Heat and Cold as a Hydrotherapeutic Measure.—BERGMANN (*Bull. Gen. de Therap.*, October 30, 1898) applies heat and cold in the treatment of subacute and chronic abdominal affections in the following manner: The patient takes a warm bath lasting fifteen minutes, the temperature being gradually raised. He is then lifted from the bath without drying, and placed in a bed on two cold wet folded sheets, which lie in the form of a T. The arms of the T are brought up about the chest and abdomen, from the epigastric to the inguinal regions, and the vertical portion of the T is brought up between the thighs, so as to cover the perineum and genital organs. Outside of this wet pack there is a blanket in which the patient is then rolled, and left during the night. The first chilly sensations are followed by an agreeable warmth, and a mild vapor bath, so to speak, exerts a calming and hypnotic action, which will often succeed in inducing sleep, although chloral, trional and similar remedies have failed. In the morning the patient jumps into a cold bath, where he remains for five seconds, and then returns to bed, not rising until he is thoroughly dried and warmed. The author has obtained brilliant results with this treatment, in cases of chronic gastritis, hemorrhoids, intestinal atony, and biliary calculus.

Massage for Post-Operative Ileus.—HABERLIN (*Centralbl. f. Gynäk.*, October 22, 1898) reports a case of ileus following a ventrofixation, in which the passage of gas and fecal matter followed so immediately upon the massage of the abdomen, as to leave no doubt of the relation between the two movements. The uterus and adnexa were found at operation to be fixed in Douglas' pouch by adhesions. These were separated. After the operation a saline was given. Six hours later, without vomiting there were attacks of colic which persisted, and the patient had the feeling that there was some obstruction in the lower pelvis. Large enemata, produced some fecal matter but no gas passed the anus and the abdomen became more and more distended. With the finger in the rectum he could feel a coil of intestine immensely distended, and in spite of the pain caused by its manipulation, the coil was massed between this finger, and the hand placed on the external abdominal wall. The withdrawal of the finger was followed in a short time by the passage of quantities of gas and many fluid stools. The massage was made on the third day after operation. On the next day everything was vomited, but after that the patient made an uneventful recovery. Haberlin thinks that massage ought to be tried in similar cases of ileus after operation or in strangulated hernia, and that the danger of hemorrhage, increase of pain or of rupture of the intestine is not a serious one.

Good Effects of Arsenic Iodid in Lymphatic and Scrofulous Children.—SAINT PHILIPPE (*Rev. de Therapeut.*, December 1, 1898) recommends the use of iodid of arsenic in the treatment of scrofula. Iodin is certainly the best remedy for the treatment of scrofulous conditions, but the forms in which it is administered are generally unreliable or irritating, as are the iodid of iron, or the tincture of the iodid, or the iodid of potash. Iodid of arsenic prescribed in a certain manner will produce remarkable results in the presence of such symptoms as scrofulous dermatitis, ophthalmia, coryza, nasopharyngeal catarrh persisting after the ablation of adenoids, recurrent bronchitis, painless enteritis, fetid diarrhea, etc. The author employs a one-per-cent. watery solution of the anhydrous arsenic iodid, *prepared cold*. It is taken either in a spoonful of water or sweetened milk before each meal, or in a glass of water which is drunk during the meal. In very young infants it is well to begin with a single drop morning and night, and gradually to increase this amount, until 20 drops are taken per day, unless signs of intolerance are sooner observed. Even in older children it is not usually good to give more than this amount. The evidences of too rapid an increase in the drug are diarrhea, anorexia, excitation or insomnia, all of which disappear at once if the administration is suspended. The author increases the amount gradually, then keeps it at a maximum for several days, and then gradually decreases it until the minimum dose is given, and then after some days of rest, he repeats this increase and decrease if the condition of the patient requires it.

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A WEEKLY JOURNAL

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SATURDAY, FEBRUARY 11, 1899.

MILK AND TUBERCULOSIS.

Both Dr. Brush and Dr. Pryor at the recent meeting of the State Medical Society in discussing the question of the relation of the State to the prevention of tuberculosis insisted on the necessity for the more careful inspection of cattle and the destruction of animals known to be infected. This is a matter that cannot be too often forced upon the public attention. Tuberculosis, because its usual manifestation is in the lungs, is considered to be, almost without exception, an air-borne disease. Methods of inspection that look to the prevention of other sources of the disease are, therefore, especially if they involve a certain amount of expense, considered to be of such secondary importance that they may be neglected without serious danger.

This is a very short-sighted policy. It is by no means proved that contagion, even though its first manifestations occur in the lungs, has always taken place through the respiratory tract. It is to be remembered that the lung capillaries constitute in a certain way a kind of sieve between the venous and arterial circulatory system and that though the infecting agent may have entered through the digestive system, it is not impossible that its first manifest lesion may be in the lungs. But apart from this consideration, which may be too often overlooked, tuberculosis of the digestive tract itself is by no means a factor that may be neglected with impunity.

The Parliamentary commission for the investigation of the question of tuberculosis in England called attention to the fact that while there had been a very large reduction in the mortality from pulmonary consumption in these last twenty years a corresponding reduction in the death-rate from other forms of tuberculosis in which the point of entrance of the tubercle bacilli might be reasonably supposed to be the digestive tract had not taken place. In fact the statistics of tubercular peritonitis in children had lagged so far behind the generally improved statistics of other forms as to be very striking. The commission did not hesitate to attribute infection in these cases to the consumption of tuberculous milk.

Of the greatest interest then in this matter is some work done under the direction of that talented pathologist whose early death has deprived Anglo-Saxon medicine of a most promising and successful worker, the late Professor Kanthack, Professor of Pathology at the University of Cambridge, England. The report appears in the *Medical Press and Circular* (London) for January 18, 1899. Dr. Sladen, working under Professor Kanthack's direction, examined the milk that was being supplied by some sixteen dairies to ten of the colleges of Cambridge. Most careful precautions were taken that the milk should not become contaminated by any vessels it was placed in after leaving the milkman's hands. More than one-half of the sixteen dairies were supplying milk that contained tubercle bacilli in sufficient quantity to cause tuberculosis in guinea-pigs, when injected into them. Though the results were negative for the other dairies it by no means proves them free from tubercle bacilli, for the number of examinations made, while perfectly clear as to the positive results they furnish, were naturally too few to justify a declaration of innocuousness of the products of the dairies even with the negative results.

Attention is called to the fact of how great a source of danger such milk must be for (1) hand-fed infants, (2) young children, (3) delicate people, (4) all people suffering from acute diseases. In most of these cases a milk diet is often considered necessary.

In some it is the sole diet allowed. Many of these patients do not drink boiled milk so that frequently when resistive vitality is especially lowered they are given to drink what are virtually cultures of virulent tubercle bacilli. The need for regulation of the milk-supply of large cities with special reference to the existence in it of tubercle bacilli seems to be made perfectly clear by these late investigations. Yet we understand that the work of the New York State Commission in the matter is at a standstill for the want of funds. We can only re-echo the warning rung out so clearly by Drs. Brush and Pryor, that economy in the regulation of tuberculosis is fearfully expensive economy, expensive in actual money and, above all, expensive in the lives and health of citizens.

THE TREATMENT OF FRACTURE OF THE PATELLA.

RECENT reports from England show that the Prince of Wales' recovery from his fracture of the patella is proceeding very satisfactorily. There is still a slight halt in his gait, but this is said to be due to the fact that as a precaution against accident the Prince is still required by his surgical advisers to wear a bandage at the knee. The case has reawakened general interest as to the question of operative or non-operative intervention for fractures of the patella.

At the time of the accident to the Prince our New York contemporary, the *Medical Record*, said: "As he has the misfortune to be an exalted personage his surgeons will probably fear to treat his injury radically, with the result that the poor man will be lame for life." Malcolm Morris, the editor of the *Practitioner* (London) commended to his "able but impulsive contemporary the example of Mark Antony, who only spoke of that which he did know," and said, with more force than grace, that the spectacle of Lord Lister, Sir William Mac Cormac, and Sir Thomas Smith treated to a lecture on surgery by the *Medical Record*, reminded one irresistibly of the story of Hannibal favored by the old philosopher with his views on the art of war. Hannibal on that memorable occasion, with blunt military impatience, it is said, interrupted the interview with the order to remove the fool.

The case certainly demonstrates that there are eminent surgical authorities who still believe in simple, non-operative, as opposed to what the *Record* calls radical, treatment of fractures of the patella. The employment of the older, simpler method in this case was certainly not due to over conservatism on the part of the attending surgeons, induced by the fact that their patient was so exalted a personage, or because they themselves had reached years where conservatism ceases to be a virtue, and becomes merely the old man's protest against things that are new because they are new. It is rather the expression of the feeling, yet common enough in the profession despite the protests of advanced "radical" operators, that the older mechanical methods will in the great majority of instances give excellent functional results, and that it is only in exceptional cases in which some complication exists, or in which the patient's subsequent livelihood depends especially on the perfect use of the extensors of the thigh that surgical intervention will be called for. Some one has well said that though the Prince's great occupation in life is to be the ascent of a throne, the manner of that ascent has a quite indifferent value as regards his compensation in after life compared to what it would be did he as a painter, for example, have to ascend a ladder for a living. We are pleased to note the thoroughly conservative view that Professor Stimson takes of the matter in the advance sheets of his new book, shortly to appear from the press of Lea Brothers & Co.:

> The points to be considered in choosing between these two main methods (operative and non-operative) for fracture of the patella are that a long experience has shown that non-operative methods furnish in the great majority of cases in which they are properly used a result which is functionally satisfactory even if the union of the fragments is not close, that most of the failures are apparently due to unfitness of the method chosen or its faulty use, that only in a small proportion of cases are the conditions such as to make a bad result inevitable without resort to operative methods, and that most of the later causes of limitation of function are equally active after either operative or non-operative treatment.

Yet this is the opinion of a man of large experience who has all the facilities at hand for thoroughly aseptic operation, and who has besides for special reasons operated successfully in some seventy cases of fracture of the patella.

THE SALOON AND THE CRAVING FOR STIMULANTS.

A GOOD deal of discussion has been aroused in New York by the supposed expression of a prominent member of the Episcopacy of the city as to "the saloon being the poor-man's club." It eventually appears that the expression was not used in the slightest degree by the reverend gentleman in the sense in which his critics condemn it so severely; but that has not yet put an end to the discussion. The odium theologicum still prompts the throwing of some barbed shafts of sarcasm, which to a rank outsider seem far more calculated to rankle in an opponent's breast than turn him gently from the error of his ways, if he is in error.

Meantime, the question itself of the place of the saloon (rum-shop) in modern life rather than of the manner of the present discussion is of interest to medical men. There is a large class of people in every community who do not permit their lights to be hidden under a bushel, as a rule, who think that the saloon, with all its attendant evils, can be legislated out of existence. For them the whole problem is one of law-making. They do not seem to realize all that human nature stands for in the matter. Long ago Horace said, "*Naturam expellas furcâ, tamen usque recurret,*" "You may pitch human nature out with a fork, but she will come back again, never fear!"

Some of the facts in relation to the human race and alcohol are interesting in this connection. There has never been found, we believe, an important tribe of human beings, no matter how degraded they might be, who have not had a method of making a stimulating liquor containing a certain amount of alcohol. It has under most varying circumstances been made from the most various materials. But starch is an essential element in vegetable tissues, and has always formed an important item in human diet. It is easily converted into sugar, and a sugar solution exposed almost any place in the world becomes contaminated with the yeast-plant from the air, fermentation ensues, and alcohol is formed. Nature would seem to have conspired with the forces that make for evil, if we are to believe our total-abstinence friends, in thus making the yeast plant and starch and sugar so universal. As we have said, man, no matter how low in the intellectual scale, has always found out how to make for himself the products that Nature put so temptingly near him.

Now, we do not pretend that this in any sense justifies the taking of alcoholic beverages to excess, but we humbly submit that it seems to point out the fact that no mere legislation at this stage in the world's history is going to do away with the consumption of alcoholic stimulants. The craving for stimulants on the part of the hard-working man is too great to ever allow us to hope for that. We realize the evil that the modern liquor traffic brings with it. As doctors we know the awful procession of physical evils the abuse of alcohol brings in its train, but we know that Nature cannot be legislated out of the problem. Removed with a fork she will come back. Directly opposed she will override every obstacle, but she may be guided into paths where the inclinations she instils even when abused may do as little harm as possible.

With the good bishop, who, if he spoke of "the saloon as the poor-man's club," did so only to impress the fact that something must be found to replace it or the legislation of it out of existence will be unavailing, we heartily agree. When the temperance people can invite the workingman to places that are as cosy and as comfortable as the saloon in which to spend certain hours that would otherwise drag on his hands, and when they will have enabled him to find there in answer to his natural craving for stimulants the milder ones, tea and coffee, that cheer but do not inebriate, then they will have done something to solve the saloon problem.

ECHOES AND NEWS.

Health of Troops in Cuba.—On January 29th it was reported that during three days there had been no deaths among our troops in Cuba. This is considered a remarkable showing.

The American Gastro-Enterological Association.—The next meeting of this Association will be held at Washington, D. C., May 1 and 2, 1899. Dr. Charles D. Aaron of Detroit is secretary.

The New Mt. Sinai Hospital, New York.—One of the features of the new structure will be a large detached building, fronting on Fifth avenue, which will be devoted exclusively to pay patients. The site cost $387,000, and the buildings will cost about $600,000 more.

Christian Science in Chicago.—Christian Scientists in Chicago have subscribed $20,000 for two new temples, one for

the North Side and the other for the West Side congregations. Besides these, a third temple, situated in Drexel Boulevard, was dedicated a year ago.

The New York Medico-Legal Society.—This Society held its annual meeting and dinner on January 30th. It was resolved that a committee be appointed to memorialize Queen Victoria, through the Home Secretary of Great Britain, urging the release of Mrs. Florence E. Maybrick.

The Brooklyn Branch of the State Medical Association.—The fifteenth annual meeting of the Fifth District Branch of the New York State Medical Association will be held in Brooklyn on Tuesday, May 23, 1899. Dr. Joseph D. Bryant is president, and Dr. E. H. Squibb, secretary.

The Ninth International Congress of Ophthalmologists will be held at Utrecht, Holland, August 14 to 18, 1899. The communications and discussions will be presented in either French, English, or German. Dr. D. Argyle Robertson, president of the Eighth Congress, is chairman of the Committee on Organization.

Dr. Wurdemann Becomes Editor of the "Annals of Ophthalmology."—Dr. H. V. Würdemann of Milwaukee, who has been associate editor of the *Annals of Ophthalmology*, has accepted the position of editor-in-chief, vice Dr. Casey A. Wood of Chicago resigned. Dr. Wood will retain an interest in the publication, and will have charge of the department of Italian literature.

The Philadelphia Medical Journal versus the Eyes of Its Readers.—It is to be regretted that our otherwise attractive contemporary should have impaired its usefulness by a marked degeneration in its recent issue as to the quality of the paper and printing. Due regard for the overwrought eyes of many of its readers dictates a return to its previous much more acceptable physical condition.

Sanitation in Havana.—On February 3d General Ludlow, Governor of the City of Havana, telegraphed to Secretary Alger as follows: "Death-rate for January reduced forty per cent. below last year. Causes, sanitation of streets and houses, cleansing local points of infection, vigilance in watching and isolating infectious cases, medicines, and supplies to sick and food to starving."

Connecticut School-Boys Physically Deficient.—Dr. Jay W. Seaver, the well-known Yale authority on anthropometry, and director of the Yale gymnasium, declares that of the 2500 students at Yale the poorest physical specimens come from New Haven. There are more than 300 New Haven boys in the University. Dr. Seaver insists that the physical training in Connecticut schools is inadequate.

Boston's Public Baths.—Mayor Quincy of Boston says that that city was the first in America to establish public baths, the oldest bath having been opened thirty-three years ago. Boston has twenty-three summer baths, and last summer 1,900,000 baths were taken. The baths are free for children, and in all but one adults pay five cents for a bath and one cent for a towel. The cost of maintenance was $38,000.

The Seventh International Congress against the Abuse of Alcoholic Liquors will be held at Paris, April 4 to 9, 1899. The preliminary program gives promise of a discussion of nearly every aspect of alcoholic injury. The president of the Congress is Dr. Le Grain. Short papers on any phase of the subject are earnestly solicited from the American workers in this field. Dr. T. D. Crothers of Hartford, Conn., is the American chairman of the organization.

Influenza in Berlin.—The report came from St. Petersburg recently that influenza was so extremely prevalent among the government officials that public business was seriously interrupted. A similar condition is prevalent now at Berlin. Many of the public officials are suffering from the epidemic, including Baron Von Bülow. At the last court ball one-half of the invited guests were prevented from attending owing to the fact that they were suffering from influenza.

Smallpox in Cuba, Puerto Rico, and the Philippines.—One hundred and sixty-one cases have been reported in the Province of Havana; compulsory vaccination has been ordered. There are at Ponce 150 cases of smallpox under treatment. It has been ordered that all the inhabitants be vaccinated. Among our troops in the Philippines there were from January 8th to January 27th, nineteen deaths, fourteen of which were caused by smallpox. It is believed that the disease will be promptly checked, and no epidemic is feared.

Antivaccination Movement.—General Phelps, President of the Antivaccination League, has given notice that an International Antivaccination Congress, at which it is intended American delegates shall be present, will be held at Berlin in June of this year. The German League is petitioning the Reichstag for the abolition of compulsory vaccination. William Tebb has completed a two-months' tour of the United States; he has been conferring with the leaders of the movement in America, where there is to be a renewed crusade.

Obituary.—Dr. Alvin C. Henderson, Coroner's Physician of Brooklyn, died February 7, 1899, in the Long Island College Hospital. Some time ago some one stepped on the doctor's foot and crushed his toes and gangrene set in. His leg was amputated, but it failed to save his life. Dr. Henderson was born at Cadiz, Ohio, fifty years ago. He was graduated from the University of Michigan, and in 1872 came to Brooklyn. He took a course of study in the Long Island Medical College, and after graduating from there began the practice of medicine in the Eastern District of Brooklyn. He was a member of the Kings County Medical Society and a number of other organizations.

New York State Factory Inspector's Report.—There are nearly 700,000 persons employed in the manufactories of the State of New York. Of this number 472,784 are males and 208,145 females. There are 21,977 boys under eighteen years of age, and 6000 under sixteen years of age employed. The number of females under twenty-one years is 65,045, and under sixteen years 7025. The

number of children employed who did not have the certificate required by law is 810. The inspector finds that there are no abuses of the child-labor law existing, and that there has been a marked falling off in the number of illiterate children found at work. There are no violations of the law governing the hours of labor.

The Baptist Hospital of St. Louis Reorganized.—For the purpose of relieving this hospital from the odium cast upon it by a letter sent out in November and December last offering to physicians sending patients to the hospital one-third of the fees received from them, at a recent meeting of the medical board it was unanimously resolved that this letter was ill-advised, that no more be sent out, and that the letters are no longer effective. It was further resolved that the hospital should be free from prejudicial alliances and impartial in its relations to colleges, religions, politics, or individuals. The medical staff consists of Drs. Bransford Lewis, John Young Brown, John A. J. James, C. C. Morris, Robert Barclay, J. W. Williamson, and John C. Morfit.

Health of Troops at Manila. — On February 2d General Otis reported as follows: Death among troops in Philippines since arrival to February 1st, seven months, 220, of which 41 were due to wounds and accidents. Of the remaining 179, 65 died of typhoid, 43 of smallpox, 22 of dysentery, 8 of malarial fever. The remaining deaths were due to many various diseases. Smallpox causes apprehension. The entire command has been vaccinated several times. Twelve physicians have been engaged several weeks in vaccinating natives. The more sickly season is during the hot months—March, April, May—when fevers, smallpox, and dysentery, are more prevalent. Nine per cent. of the command are now reported sick. A great majority of the cases are slight ailments.

The Increase in the Personnel of the Government Medical Services.—In view of the contemplated increase by the number of 400 in the medical service of the Army, and the proportionate enlargement in the medical corps of the Navy and Marine Hospital Services, the Medico-Chirurgical College of Philadelphia announces the inauguration of a special quiz course for the preparation of candidates therefor, commencing February 1st and continuing for four months. The regulations of the Army require that candidates be between twenty-one and twenty-nine years of age, which limit is extended to thirty years in the services of the Navy and Marine Hospital Services. The qualifications for acceptance are somewhat rigid, and as a rule special preparation is required to pass the examinations, but the positions offered are both honorable and remunerative, and doubtless will be eagerly sought.

Commended to Schenk & Co.—We clip the following from "Humors of Clerical Life" in the *Eclectic* and *Cornhill Magazines*. We cannot say how far the prophylactic was effective in this particular case, but it has as much reasonableness as many another panacea in this line for and against: "A clergyman, walking on the outskirts of his parish one day, found one of his parishoners whitewashing his cottage. Pleased at this novel manifestation of the virtue that is next to godliness, he complimented the man on his desire for neatness. With a mysterious air the worker descended from the ladder, and approaching the fence, said: 'That's not exactly the reason why I'm a doin' of this 'ere job, your Worship. The last two couples as lived 'ere 'ad twins, so I says to my missus: 'I'll take and whitewash the place so as there mayn't be no infection. You see, sir, as how we've got ten of 'em already.'" We commend the whitewashing expedient to enthusiastic experimenters who would like to rule Nature their way.

Care of Inebriates in Germany in 1900.—A new system called "the curator system" for the control of inebriates of Germany has been devised. With the beginning of 1900 there will go into effect a truly remarkable law—a law which places every habitual drunkard under an interdict involving complete submission to the will of a duly appointed "curator." This person will be empowered to put the person whom he regards as a dipsomaniac anywhere he pleases, there to undergo treatment for the malady as long as the "curator" pleases. And a new law formulates a fine, broad definition in telling what an habitual drunkard is. It says that the term includes everybody "who in consequence of inebriety, cannot provide for his affairs, or endangers the safety of others." This measures was first advocated in Germany thirty-five years ago, but hitherto its enactment has been prevented by influences not difficult to understand. How the regulation will work remains to be seen. That it may effect good results is obvious, and equally evident is the possibility that it may lead to tyranny such as would be utterly unendurable—anywhere out of Prussia.

Extracts from "Science and Health." — The book "Science and Health," or the Christian Scientist's guide to health and happiness, is a feast in which all the courses are *bonnes bouches*. The following are extracts taken at random: "The divine mind never called matter medicine." (How did Mrs. Eddy find this out?) "The human mind uses one error as a medicine for another. It seeks, on the same principle, to appease malice with revenge, and to quiet pain with opium." (Admirable logic.) "When the science of being is understood, every man will be his own physician." (He who treats himself, etc.) "The ancient Christians were healers. Why has this element of Christianity been lost? Because our systems of religion are governed more or less by one system of medicine." The author's "experiments in homeopathy had made her skeptical as to material curative methods." "You say a boil is painful, but that is impossible, for matter without mind is not painful." "We weep because others weep, we yawn because others yawn, and we have smallpox because others have it; but mortal mind, not matter, contains and carries on the infection. When this mental contagion is understood we shall be more careful of our company," etc.

The Latest Sham Diploma.—The latest sham diploma that has come to light in England, according to the *Medical Press and Circular* of London, is one exhibited by a

Yorkshire chemist. He announces himself as a Doctor of Refraction, duly examined and graduated (*in absentia*) by the Philadelphia Optical College. He has documents from his *alma mater in distans* making known "by these presents to all whom it may concern, that he has passed a most satisfactory examination in the theory and practice of refraction, and is, therefore, entitled to the highest honors that the college can bestow," "which is not saying much" adds our English contemporary.

Really, we had thought that our neighbors of Philadelphia were more careful of the ethical economy of their medical educational household than this. We supposed the days of Buchanan were gone forever. Least of all would we have expected a diploma-selling institution to spring up in the ophthalmological line since our lusty young contemporary of Philadelphia had shown frequent signs of caring especially for abuses in this branch of the healing art. This is a matter that deserves looking into. Philadelphia's fair name in medical education has become of late years once more a precious treasure to her and her professional progeny. Let it not be smirched again by the diploma traffic!

The Centenary of Nitrous Oxid as an Anesthetic.—A correspondent of the *Medical Press and Circular* of London recalls the fact that this year is the centenary of the discovery of the anesthetic properties of nitrous oxid gas. The discovery was made in the laboratory of the Hotwells Hospital, Clifton, Bristol. This hospital had been erected by Dr. Thomas Beddoes, with the pecuniary aid of Mr. Edgeworth (the father of Maria Edgeworth, the novelist), and of Mr. Wedgewood, the well-known pottery man of those days, and was intended especially for testing the therapeutic value of "factitious airs," the name used at the time for gases artificially produced in the laboratory. It was probably the last week in November, 1799, that Mr. Humphrey Davy, as we learn from a letter to Mr. Davies Gilbert, made his celebrated statement: "As nitrous oxid in its extensive operation appears capable of destroying physical pain, it may probably be used with advantage during surgical operations." Wordsworth, Southey, Coleridge, the younger Priestly, James and Gregory Watt, Wedgewood, Count Rumford, and many other individuals distinguished for literary ability, scientific attainments, and practical talents watched over the birth of modern anesthetics, and had seen the effects of the gas, yet of all of these Davy alone suggested the practical application of the discovery. One of the first to inhale it was Anna Edgeworth, the sister of the novelist, and the wife of Dr. Beddoes, the director of the hospital.

For Pediculosis Pubis.—To avoid the eczema which may result from the use of mercurial ointment, a calomel ointment, 1 to 20, is recommended, or the following lotion:

℞	Hydrargyri chlor. corros. . .	parts 1
	Spiritus	parts 100
	Aq. dest.	parts 400.

The ova can be killed by applications of hot vinegar, somewhat diluted, and scraped off with a metal comb.

CORRESPONDENCE.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

ANTIVACCINATION IN PHILADELPHIA — TYPHOID FEVER AS IT APPEARED AMONG THE SOLDIERS—THIRTIETH ANNUAL MEETING OF JEFFERSON MEDICAL COLLEGE ALUMNI—MEDICO-LEGAL SOCIETY—GERMAN HOSPITAL APPOINTMENTS — PERSONAL NOTES—HEALTH STATISTICS.

PHILADELPHIA, February 7, 1899.

THE antivaccinationists in Philadelphia are to have a chance to show how much ignorance they are possessed of for Charles J. Field has filed a petition in court to compel the principal of a grammar-school to admit his eight-year-old child. The child was refused admittance because she had not been vaccinated, and the petitioner says the refusal was in violation of his constitutional rights and that the Act of Assembly under which the respondent acted is unconstitutional and void, and further, he attacked vaccination *per se*. The case was argued before Judge Sulzberger on Saturday last, and he decided the teacher had complied with the law. The plaintiff's lawyer then asked for an opinion as to the validity of an Act which gives a school principal power to refuse a child admission to a school "unless it had been inoculated with that filthy and loathsome disease known as smallpox." The plaintiff contended further that the medical authorities of the world have declared vaccination to be no safeguard against smallpox, but as he could not quote an authority and failed to show any reason why the law was unconstitutional Judge Sulzberger postponed the case until next Saturday to enable the plaintiff to secure affidavits in support of his position. The present time would seem opportune for killing this antivaccination movement, for Philadelphia has enough to do with her typhoid-fever epidemic without looking for more trouble.

At a meeting of the College of Physicians, held Wednesday evening, February 1st, typhoid fever as it was seen in the soldier-patients at the city hospitals last summer was discussed. Dr. Tyson reported the cases of those patients who were treated at the University Hospital, Dr. J. C. Wilson those at the German, Dr. Meigs those at the Pennsylvania, Dr. B. Franklin Stahl those at the Presbyterian, and Dr. J. M. Anders those treated at the Medico-Chirurgical. The question was then discussed by Drs. H. A. Hare, J. M. Da Costa, R. G. Curtin, and S. Solis Cohen. Among the interesting points brought out was the uniformly low rate of mortality (about five per cent.), the rarity of accompanying malaria, gangrene of the skin, which occurred in some cases at the Presbyterian Hospital (reported in a previous letter to the MEDICAL NEWS), and, lastly, the divergent views as to the value of the Widal reaction.

No hospital showed a much higher rate of mortality than five per cent., though, curiously enough, of four wards at the Pennsylvania Hospital, two in which cold sponging was employed showed a mortality less than half as high as the two in which systematic bathing was employed, both sets of cases being nearly equal in num-

ber. Few cases were reported as having been accompanied by malaria, and in those cases in which malarial plasmodia were found it was the general opinion that the malarial toxin was apparently overwhelmed for the time being by the typhoid toxin, later on evidencing its presence by slow convalescence and irregular chills. The Widal reaction seemed fairly accurate in the majority of cases, though in one particular instance five cases of undoubted typhoid fever from a clinical standpoint gave negative results to two different laboratories working independently of each other.

The thirtieth annual meeting of the Alumni Association of Jefferson Medical College was held Saturday evening, February 4th. The present epidemic of influenza was discussed, papers on this subject being read by several members, after which the Association was entertained by Dr. Edward P. Davis at a supper which was served in the Therapeutic Laboratory.

The annual election of the Medico-Legal Society was held last week resulting as follows: President, Dr. E. B. Wheeler; vice-presidents, Dr. A. M. Eaton and Louis H. Adler; treasurer, Dr. G. M. D. Peltz; secretary, Dr. C. H. Clewell, and librarian, Dr. J. I. Nash.

The Board of Trustees of the German Hospital held its annual meeting last week and an election for members of the hospital staff was held. No changes of any importance were made, the old staff being retained with the addition of Dr. Charles J. Judson as a member of the medical staff, Dr. R. F. Gerlach as a member of the surgical staff, and Drs. Jesse Allen, Clarence W. Wille, John F. Sinclair, A. A. Uhle, E. K. Moore, W. J. W. Peters, and Walter Curry as residents.

Effingham B. Morris has been succeeded by Archibald R. Montgomery as a member of the Board of Managers of the Pennsylvania Hospital. Dr. Henry M. Fisher, pathologist and curator of the hospital has resigned and Dr. Henry W. Cattell has been elected Director of the Ayer Chemical Laboratory of the Pennsylvania Hospital.

Mayor Warwick has appointed Dr. Joseph S. Neff a member of the Board of Charities and Correction and Governor Stone has chosen Dr. John V. Shoemaker for Surgeon-General of the State in place of Colonel Louis W. Read, whose time has expired.

The total number of deaths occurring in Philadelphia for the week ending February 4th, as reported at the health office, was 518, of which number 128 occurred in children under five years of age. The total number of new cases of contagious diseases was 471, reported as follows: diphtheria, 77 cases with 16 deaths; scarlet fever, 33 cases with no deaths; typhoid fever, 361 cases with 38 deaths.

Obituary.—The medical staff of the Demilt Dispensary of New York at a meeting held February 1st, adopted resolutions of respect, expressive of their personal friendship for their late colleague Dr. Judson C. Smith, and their sense of loss sustained by his death as well as sympathy for the family.

OUR LONDON LETTER.

[From Our Special Correspondent.]

THE CRUSADE AGAINST CONSUMPTION—THE CONSCIENCE CLAUSE IN THE VACCINATION ACT—"DR. THERNE" ENDORSED BY THE EXECUTIVE COUNCIL OF THE JENNER ASSOCIATION—DEATH OF SIR JAMES MONAT, K.C.B.—A NEW ALLY FOR THE PROHIBITIONISTS—A REMARKABLE ANOMALY OF THE LUNGS.

LONDON, January 28, 1899.

THE crusade against consumption is spreading with great rapidity here. The English public was slow in awakening, but now that it has done so it bids fair, as usual, to make up for lost time. A constant fusilade of articles, news items, and notes upon tuberculosis and its treatment is being kept up by the entire press from the *Spectator*, the *Saturday Review*, and the *Contemporary* to the *Daily Telegraph* and the *Star*. The reports of the German public meeting, attended by the Empress herself, and containing a statement of the excellent work done in the twenty sanatoria already established in Germany, have been published far and wide, and American sanatoria are held up as models of what ought to be done. During the past week no less than eight different municipal councils as widely separated as Dundee, Hull, Manchester, Darlington, and Lambeth (London) have brought up the question of establishing sanatoria for action. It is highly probable that a conference of municipalities to devise plans for uniform and united action in this direction will be called shortly. Edinburgh is fanning the flame by presenting the excellent results obtained in her special hospital established some four years ago, largely under the leadership of Sir Grainger Stewart. During this time 297 in-patients and 6996 out-patients have been treated, with a gratifying percentage of cures. If the open-air treatment has given such excellent results in the hyperborean climate of "Auld Reekie" it will certainly "go" anywhere.

The Liverpool Hospital for Consumption has just received the generous donation of $75,000, one-half from Lady Sarah Willox, and the other from Mr. J. Hartley, to build a similar sanatorium upon a plot of ground already secured, among the beautiful hills of Cheshire, within easy journey of the city.

There can be no question that the notorious "Conscience Clause" is filling a "long-felt want." The *Pall Mall Gazette* has been tabulating the records, and presents thoughtful Englishmen, as food for reflection in the new year, with the appalling fact that no less than 275,000 children have already been "exempted" during the four months of the operation of the act. At this rate there will be plenty of material for a good, old-fashioned, Sixteenth-Century epidemic of smallpox in a very few years' time, and Rider Haggard's vivid prophetic sketch of the pestilence of 1950 may come true all too soon.

If any one had said thirty years ago that a solemn and scientific sanitary association would be formally endorsing a novel, and advising the public to read it, he would have been simply laughed at, and yet this is precisely what the executive council of the Jenner Association did at its last meeting when it passed a formal resolution

thanking Mr. Haggard for his admirably accurate and able treatment of the vaccination problem and the dangers of the antivaccination crusade in "Dr. Therne," and cordially recommending the book for general reading. And to think that within the memory of nearly all of us novels were solemnly denounced from the pulpit, and fiction and serious thought were regarded as incompatible!

The curious accusation against Dr. Mackay of having reported at an inquest that he had made a complete post-mortem examination of a body and found death due to congestion of the brain, when later investigation showed that the skull had never been opened, has been brought before the Home Secretary. The judge before whom the charge of perjury was brought dismissed it with both brevity and levity as merely a case of "doctors differ," but it has been taken up seriously by many members of the profession, and it is probable that Judge Plowden may have an opportunity to learn that "judges differ" also..

Another medical military hero has just passed away in the person of Sir James Monat, K.C.B., who died a few days ago at the ripe age of eighty-five years. He was surgeon to the immortal "Light Brigade" in the Crimea, and at the battle of Balaklava he bravely went to the assistance of an officer who had fallen in the famous charge, and dressed his wounds as he lay exposed to the terrific fire of the enemy, thus saving his life by checking the hemorrhage from a wounded femoral artery. For this he was honored with the Victoria Cross, and later with a knighthood.

It is truly painful to see how the props are dropping out, one by one, from under the vaunted scientific crusade against alcohol. First came the damaging discovery that the average life-expectation of total-abstainers, as shown in their insurance companies, was below that of moderate drinkers; then came Adami's revolutionary demonstration of the bacillus that causes the celebrated "gin liver," and now Professor Veley of Oxford has detected the organism that produces "faultiness" in rum. Whether it is also responsible for the faultiness produced in the consumers of this beverage it is not yet stated, but that will probably be the next step. We always felt that there was something particularly deleterious about rum, and now we know what it is. The organism is certainly unique in one respect, in that it can live and flourish in a solution containing seventy-five per cent. of absolute alcohol. The secret of this extraordinary power of resistance appears to lie in the dense gelatinous sheath which, in Professor Veley's words, "protects it from its enemy, alcohol, while allowing it to secure the sugar which its nutrition requires." Hence it has been christened with the ingenious name of *coleothrix methystes*, from the familiar *χολος* "sheath," and *μεθυστης*, "a drunkard." What a pity human drunkards—and prohibitionists—can't be trained to secrete such a sheath. It would save their neighbors an immense amount of discomfort.

A most remarkable anomaly has just been discovered at an autopsy held by Dr. Mulqueen in the course of an inquest in South London. This is complete congenital atrophy of one lung. The patient was a man aged forty-two years, who had lived an active life and enjoyed good health until within a few months of his death, which was due to hemorrhage from erosion of a vessel in the wall of a small cavity in his lung. Only one lung, the right, could be discovered; it was enormously enlarged, reaching well over to the left side, and almost completely filling the chest. At the back of the left pleural cavity attached to the occluded and atrophied left bronchus was found a small, dark, cylindrical mass of tissue, supposed to represent the remains of the left lung. Only three other cases of this defect appear to have been recorded, and two of these were in infants which never breathed.

"Kynomania" is the name of a new mental disorder which has just been discovered and described by an Irish physician. Its principal symptoms are the owning of a vicious or dangerous dog, and an utter lack of adequate contrition for the damage inflicted by its bites. The doctor regards this psychosis as most unwarrantably encouraged and aggravated by the present state of the law which allows every dog "one free bite" before it can be proceeded against as a vicious animal and his owner held responsible. We fear it would take rather a large asylum to accommodate all the kynomaniacs.

The *Lancet* is now "booming" Netley, the army medical school, as the proper place for the study of tropical diseases on the ground that its hospital sees nearly three times as much malaria as the Seamen's Hospital.

The great London newspapers are beginning to take an interest in medicine, and their keenness and intelligence is really most gratifying. They have little to say of wonderful cures and astonishing operations by Dr. So-and-so, but every new practical advance, especially in preventive medicine, is promptly and usually most accurately reported. The *Daily Chronicle*, for instance, a few days ago went so far as to devote nearly two columns to a really admirable résumé of the progress of medicine during 1898, while the *Times*' reports of the testimony before the Plague Commission, the Marlborough-House meeting, and the Hatlien lectures upon tuberculosis have been even fuller than those in the medical journals.

Mr. Wm. Cadge, the well-known lithotomist of Norwich, has given the handsome sum of $50,000 to the endowment fund of the Norfolk and Norwich Hospital. This makes $100,000 which he has given to medical charities during the past few years. This noble liberality, with not only his time and services, but also with his hard-earned money, by a medical man, has attracted wide attention and praise in the general press.

Dr. Clement Dukes, physician to the renowned Rugby School of Dr. Arnold and "Tom-Brown" fame, has just read a valuable paper before the Headmasters Association upon the unnecessary damage suffered by children in the process of education. From an experience of twenty-eight years as a school-physician he is convinced that the younger school-children are seriously and even permanently injured by the deadening routine, confinement, and lack of rational planning and adaptation of the

course of study. He urged that the State should insist that every school should have ample grounds for games. He also significantly intimated that school-hours are almost as much in need of regulation as work hours before the passage of the Factory Acts.

The "Life of George Harley, F.R.S.," edited by his daughter, just published, is an interesting record of the life of a successful physician. He was twice compelled to give up his work for a considerable time, first by blindness and then by rheumatic gout, but he managed to recover and return to the attack though badly crippled in both cases. A curious thing about his loss of sight was that in the early days of his recovery he found he had lost absolutely all color perception, but this gradually came back to him. It may be a consolation to those threatened with blindness to learn from as competent a witness as Dr. Harley that "the blind man lives in an ideal world of his own infinitely more beautiful than the world which surrounds him." It was for the benefit of Dr. Harley's wife that Liebig first digested food by artificial means, and thus probably saved her life from typhoid.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Ninety-third Annual Meeting, Held at Albany, N. Y., January 31, and February 1 and 2, 1899.

[Concluded.]

SECOND DAY—FEBRUARY 1ST.

[Continued.]

SECTION IN GENERAL MEDICINE.

DR. B. C. LOVELAND of Clifton Springs read a paper, entitled

LITHEMIA.

Synonyms for this condition are, uricacidemia, the arthritic, or rheumic diathesis, or modified gout. It is responsible for about one-half the functional troubles with which humanity is afflicted, and also for a large proportion of the graver diseases which ultimately result in death. There are two distinct divisions or classes of lithemics, and in each of these classes may develop all, or nearly all, of the various phenomena which characterize the condition. These two classes may with propriety be called plethoric, or over-nourished, and asthenic, or poorly nourished.

The plethoric lithemic is a person of robust habit, usually of ruddy complexion, with a hearty appetite, inclined to be a little over weight, often given to insufficient exercise, and the principal functional manifestations in this class are neurasthenia, cerebral hyperemia, spinal congestion, biliousness, so-called sick headaches, insomnia, and melancholia. If continued till organic changes have occurred here is the proper soil for the development of inflammatory rheumatism, arterial degeneration, apoplexy, paralysis, diabetes, sclerosis of the liver, or general arteriofibrosis, besides many lesser ills. The amount of urine in these patients is usually below three pints in quantity, in twenty-four hours, and the specific gravity will vary from 1024 to 1035, or 1040; it is free from signs of kidney disease unless serious organic change has taken place; it may contain uric acid or oxalate of lime, is darker than normal in color, and shows other signs of concentration. The blood also is concentrated above normal, both in color and in corpuscles. This concentration of the fluids of the body, marked as it is by an excess of uric-acid compounds, plays an important part in that excess of solid matter in the body which marks a man as *old* no matter what his years. It is an easy way out of this condition when the organs are still free from degeneration, and the early discovery of the condition is of great importance.

The first physical landmark which may be noticed as pointing toward the condition of lithemia, the finger-nails, is often overlooked. As they are farthest from the center of circulation earthy substances are deposited there first, hence it is always wise to note their smoothness and brittleness.

The chief factor in correcting this condition is the regulation of the patient's diet and exercise, giving less albuminous foods, more water, more exercise, and cutting off from the dietary any of the cereals, vegetables, or fruits which may be the special cause of indigestion. This may be all that may be required, but where the saturation of the system with the uric-acid elements is sufficiently marked it may be necessary to use some mild alkaline medicine in addition to the dietary measures, and in this case the particular alkali is not important.

The asthenic lithemic is the reverse in physical type from the plethoric, and the most common manifestation in this class is rheumatic gout. Beside this we find chronic degenerations of the kidneys, catarrhal troubles of mucous membranes, either bronchial, nasal, or uterine, and also some forms of muscular rheumatism and neuralgias. Neurasthenia may occur in either type of lithemics. In this class the assimilative processes are feeble, and the uric acid is not from over-ingestion, but from poor assimilation.

We find the same condition of urine, but the blood is poorer in hemoglobin, often containing not over sixty-five or seventy per cent., while the corpuscles may count about normal, or more. If we inquire we will find that these patients never drink water, are never thirsty. In our management of this class a very different diet must be enjoined from that prescribed for the plethoric class.

Water is to be used abundantly, meats, especially lamb and white meats, may be used with more or less freedom as the conditions indicate. Bread, potatoes, and starchy vegetables very sparingly, but all sweets, and all sharp acids, including the sour kind of grapes, strawberries, tomatoes, and pie-plant should be avoided. Small doses of some alkali which the stomach will tolerate should be continued most of the time for months, and every effort in the way of out-door exercise should be employed.

DR. C. M. REXFORD of Watertown presented a paper on

WEAK HEART.

The importance of early recognition and the advantage of prompt treatment upon the occurrence of any sign of failure in the working power of the heart was urged. While heart lesions receive due attention, too often weakness of the heart is regarded as of little consequence because there are no marked symptoms of disease. There was a a time when the study of murmurs was about all there was to the question of heart disease, and these determined prognosis and treatment. Then more attention was paid to valvular changes, and last came the knowledge that the condition of the heart's cavities and its muscular walls was after all the thing which was of most consequence. The principal question is, how strong is the heart, and how much ability has the cardiac muscle to do the work required of it. It can safely be said that the cause of heart failure is not chiefly valvular lesion but is weakness of the myocardium. Whether there is such a thing as serious functional disease without cardiac lesion seems hard to understand, but is, after all, of much less practical importance than is the fact that the so-called functional troubles lead to those which are plainly organic. All hearts are not equally strong; some are inherently weak. It has been said and often quoted that a man is as old as his arteries. If there must be limitations of capacities for activity it is well to be aware of them. It is better for a man to know his weakness than to know his strength. Heart weakness, if neglected, results in dilatation. It is produced by malnutrition and anemia in the young and in overworked adults. It is caused by acute diseases and by excessive use of tobacco and alcohol. It results from violent muscular action and is becoming common among bicycle riders who ride injudiciously. Physical and mental fatigue, care, and anxieties are frequent causes. Treatment of weak heart is satisfactory if attempted early, and if the cause can be removed. Hygienic measures often suffice. Iron and oxygen are the great remedies. The first medicine a physician thinks of when he sees a case of heart disorder is likely to be digitalis. This is no discredit to him, and is a tribute to the remedy, but it must be used with great care and nice discrimination. It helps in dilatation, and if the arteries are contracted it does harm and increases the labor of the heart. Nitroglycerin is the best vascular dilator. Arsenic and strychnin are useful remedies. The coal-tar products are too much used. In pneumonia the great danger is heart failure, and treatment from the first ought to be directed to its prevention. Strychnin is the best general remedy. Strophanthus is better in this disease than digitalis when a heart tonic is needed. Treatment of weak heart generally is hygienic quite as much as medicinal, but ought to be employed early. Heart weakness means possible heart failure. It is probable that soon there will be no such thing known as a functional disease, and surer knowledge will enable us to better appreciate disorders in their inception.

DR. GRACE PECKHAM MURRAY of New York read a paper on

NERVOUS DYSPEPSIA.

Nervous dyspepsia means that dyspepsia which is brought about by a lack of nerve force which prevents the proper functioning of the organs of digestion. Brain exhaustion reacts almost at once upon the stomach. Brain-workers are very subject to dyspepsia. In many such cases among literary people she has given the name of "literary dyspepsia." The position taken while writing cramps the stomach and often interferes with its action. The greatest promotor of this trouble is business worry and anxiety.

The effects of nervous dyspepsia are varied, acting on the secretion of the glands differently. Among symptoms more intimately associated with this condition is vertigo, which may be due to auto-infection from the decomposition of food or its arrested digestion. The treatment varies with the symptoms. When bromid of sodium is not beneficial there is probably associated anemia; then the bitter tonics, especially, nux vomica, should be used. If over-acidity is present, bicarbonate of soda, combined with bismuth, which allays the irritability and hyperesthesia, is of value. In cases in which oxaluria and disturbances of the liver are noted, improvement follows the administration of acids. The results following the use of pepsin are not often satisfactory. In long-standing cases lavage is useful. Electricity is often helpful.

DR. W. P. NORTHRUP of New York read a paper on

PNEUMONIA IN INFANTS; ITS DIAGNOSIS AND TREATMENT.

What are the three most useful symptoms and signs of pneumonia in infants?

By infants I mean those under two years of age; the pneumonia I limit to primary acute bronchopneumonia; by best three signs I mean a limited selection from the multitude of apparently equally important signs, a few which in everyday work, taken in conjunction, serve most often as the base for diagnosis.

The cases I have in mind are not superficial, clearly defined pneumonias, easily recognized by auscultation and percussion, but those beginning centrally and giving but late evidence of their character—cases which simulate meningitis or typhoid the first few days. Given a child acting sick—that is, dull and feverish: it is put to bed. Its symptoms in the first to third days may be, as regards the nerve-centers, dulness increasing to stupor, or great restlessness with slight occasional delirium. Added to this may be rigidity of neck, or general rigidity, and pronounced stupor, making a very fair picture of meningitis. Others, again, a little older, with a pneumonia beginning deep in the lung, working slowly to the surface, lie for days in an apathetic state suggesting typhoid fever.

First, in acute inflammation of the lungs the respiration-pulse-ratio tends to depart from the normal of 4 to 1, and approximate the proportion 3 to 1. That is, instead of 80 and 20 it approximates 120 and 40. This I submit to you as the best one point. It is not new; all textbooks mention it but do not emphasize it.

I have for the sake of emphasis put the last point first. It is taking the three points together that constitutes the aid to diagnosis. The second point I would made is, *fever;* a persistent elevated temperature, whether remittent, intermittent, or uniform.

Third, râles, subcrepitant and crepitant, over a circumscribed area, and more certainly if limited to one side; these would complete the three points. Especially does this apply to infants under one year.

In illustration, let me call your attention to the following case, from my service in the Presbyterian Hospital. The patient was fifteen months old, had not been quite well for two weeks, having a slight cough from which he seemed to be very much improved. Three days before entrance into the hospital he became sick, feverish, apathetic, lying quietly unless disturbed. The bowels were somewhat loose, three or four greenish passages in a day. On entrance, the hospital record says he had slight evidences of bronchitis. These, however, disappeared in two days, and there was nothing to be found in his lungs. In this way he continued for several days. Physical examination negative. He was seen by several physicians, and malaria was suspected: repeated examinations of blood showed no malarial organisms. The temperature made wide daily excursions, in the first eight days making two abrupt excursions from 98° to 105° F., once from 97° to 106°. Up to this time let it be remembered that the physical signs of the chest were negative, and the symptoms were high remitting and intermitting temperature, apathetic condition closely resembling the typhoid state, marked pallor, no enlargement of spleen, rapid respiration. By some, typhoid was suspected, malaria having been ruled out. The interest of the case centers in the fact that the disturbance of the respiration-pulse-ratio was pronounced, and not only approximated 1 to 3, but persistently exceeded it. A summary of all respiration and pulse figures taken every four hours shows the respiration to be 2978 as against 7384; the aggregate figure of all respirations in that time was 8934, whereas the pulse was 7384, showing a difference of 1550, an excess on the side of respiration.

It was on this point that the writer of this paper made the diagnosis at the outset, adhered to it through all the days before the appearance of consolidation, even though the physical signs of the chest were negative, for 3, 5, 7, 9, and 11 days. On the eleventh day a small area of consolidation was found on physical examination over the root of the left lung behind. Its physical signs were, on auscultation, diminished respiratory murmurs on quiet respiration, harsh, rude, or bronchovesicular respiration on forced respiration and coughing. From that time on the case was of no special interest, the crisis taking place on the seventh day of diagnosis, or the eighteenth of disease.

Treatment.—It is not an encyclopedic list that I wish to give, but to emphasize one or two things of importance in the treatment of pneumonia. No treatment directly influences the pneumonic process. There is much that may be done to enable the patient to safely pass through the disease. In the fall service at the Foundling Hospital especially during the epidemic of last December I had special privileges in observing and treating primary acute bronchopneumonia in infants (under two years).

There are again three points I would make as most important in treatment. First, hygienic conditions: fresh air, a large room, changing the patient from one well-aired and freshened room to another in like condition. The temperature of the room should vary inversely as the temperature of the patient; 65° to 68° F. when the patient's temperature is high, and higher—say 70° when the patient's temperature reaches normal. An infant with high temperature and dry skin is in no danger of taking cold. A window should admit fresh air continually. However damp and raw the outer air, the warm walls and furniture of a heated house will temper it to the needs of the child. Nothing so refreshes an infant, nothing is more essential to the condition of the blood, nothing acts more favorably as a heart tonic, than cool fresh air. On the other hand the opposite conditions are these—the infant's crib is closely tented about with blankets, the windows are covered with sheets to keep off draughts, added to this are often in the room numerous relatives, and large gas-jets consuming the oxygen. No fever patient ever caught cold from air coming in contact only with the oval of its face. It is not air going in at its nose and mouth that gives it cold.

Second, the care of the digestion: pneumonia disturbs the infant's digestion; flatulence embarrasses the action of the diaphragm, pressure upward against the heart may determine the unfavorable outcome of the disease. One might formulate the advice, "to cure pneumonia, treat the digestion."

Third, the use of water,—bathing—to save nerve exhaustion—or to put it in another way, to stimulate the nerve-centers. A physician once suffered great remorse because a child developed pneumonia after he had treated it several days for typhoid fever, using baths, carefully regulated feedings, etc. This error in diagnosis probably gave the child its best chance of recovery. I often think it would be well to make a diagnosis of fever and not of pneumonia, so that friends would allow one to treat the patient rationally. I believe in treating an acute bronchopneumonia like a fever patient.

Never have I had anything but encouraging experiences with bathing in pneumonia. Again, I suggest it might be policy to render a diagnosis of fever instead of pneumonia so long as the traditional fear prevails of water and air for pneumonia. Water should be freely administered internally as well. The refreshing cold water on the lips, in the mouth and stomach of a fever patient need only be suggested.

DR. C. DE LA MONTAYNE of Port Ewen presented a paper on

MEDICAL EDUCATION: ITS RELATION TO CLASSICAL LITERATURE.

The speaker referred to many authors whose writings were greatly aided by their knowledge of medicine, such as Holmes and Holland of the United States; the hand of the physician was shown in all their works. Rabelais, the greatest satirist in any language, showed his knowledge of midwifery in "Gargantua" and "Pentagruel." John Brown, the Scotch physician, Charles R. Darwin, Huxley, and others, were assisted by their medical knowledge. Even Homer, in the "Iliad," shows his under-

standing of anatomy. Fleming, Conan Doyle, S. Wier Mitchell, Brown, and others, are medical men whose success is undoubtedly due in no small part to their knowledge of medicine.

DR. A. WALTER SUITER of Herkimer presented a paper on

TONSORIAL HYGIENE, AND STATE CONTROL OF BARBER-SHOP SANITATION.

Dr. L. Duncan Bulkley quotes no less than forty-eight writers who report the occurrence of chancre as a sequence of razor cuts upon the face, and a host of similar cases resulting from infected towels, combs, and brushes. A surgeon or dentist is morally and legally responsible for the absolute disinfection of his instruments before operating, and the barber should be made likewise. In the neighboring Province of Quebec there was issued a circular setting forth the dangers to the public, and the necessity for taking preventive measures. All barbers are directed first to encourage customers to have each his own instruments; secondly, to disinfect the razors, combs, and clippers, with directions for accomplishing this; thirdly, to disinfect the brushes with a two-hours' exposure to the fumes of formalin, etc. (Copies of these instructions can be obtained by applying to the Secretary of the Board of Health of Quebec, No. 76, St. Gabriel street, Montreal.) It is earnestly to be hoped that similar regulations may be promulgated generally through the health boards of all cities and towns.

It must be apparent that there could be no objection to the qualification of the barber as to skill, and to the system of control by State licensure, but it seems very clear that the sanitary regulation of his place of business is so great a public interest and insanitary condition so much a menace to the public health as to bring that part of the subject within the province of a constituted public-health system of authority. Let the proposed examining board make sure that barbers are not ignorant of the principles involved in the required sanitation, after which the local health-officer should be required to make it certain that those principles are faithfully kept in practical application.

DR. SIMON BARUCH of New York read a paper on

HYDROTHERAPY IN CHRONIC DISEASES.

The conscientious physician, in treating acute diseases, lays down certain rules for the guidance of the nurse. In chronic diseases, on the contrary, skilled supervision cannot be obtained, and hence the results are not so favorable. In chronic diseases iron and other tonics are used with uncertain results, and while a positive method of bathing like that of Brand is well understood by physicians, the use of hydrotherapy in chronic diseases has not received sufficient attention. If the enormous vascularity of the skin be born in mind it becomes clear that we have in water a powerful agent in regulating the supply of blood to the skin. It is well known that cold water stimulates the muscular fibers and that warmth relaxes them. When cold water is applied to the skin the cutaneous arterial capillaries contract, while the veins remain unaffected. The result is that the skin has a cyanotic appearance; if the application is prolonged, there follows a necrosis of the tissues by reason of the fact that there is a deprivation of the vascular supply. If the application of cold water be brief, the contraction of the arteries is evanescent. A similar result is obtained from the application of heat; both are cutaneous excitants, whose effects are conveyed to the skin through the medium of water. Water has become popular because we can have any temperature and any duration, and because it can be applied to all portions of the body or to the entire surface. The cutaneous nerve terminals are affected, and they in turn affect the motor tracts to the brain, and this is reflected to the pneumogastric, which produces a deep inspiration and more increased cardiac action. Upon the utilization of this principle is based all the clinical value of hydrotherapy. Physiological as well as clinical experiments demonstrate that excretions and secretions depend upon the circulation, and may be enhanced by restoring the latter when disturbed. Infectious diseases, like typhoid fever and pneumonia, not only have the quantity of urine increased by the judicious use of hydrotherapy, but the coefficient doubled or even tripled. It is well established that certain diseases like gout, rheumatism, and syphilis can be favorably influenced by hydrotherapy. Many cases of a chronic nature where medicinal measures have failed have yielded most happily under hydrotherapy treatment. In chronic cases institutional treatment has become almost imperative. The speaker's records embrace 100,000 treatments in cases of neurasthenia, chloro-anemia, phthisis, gout, rheumatism, dyspepsia, some cardiac diseases, asthma, sciatica, and other neuralgias and neuritis. The applicability of hydrotherapy to these varied diseases was explained by the flexible nature of the treatment which makes it adaptable to the various conditions.

Many institutions have sprung up both in Germany and in this country which are bringing hydrotherapy into disrepute. If water is to occupy a lasting position among remedial agencies it should remain in the hands of medical men. Its theory and technic should be taught in schools and its application demonstrated in hospitals.

DR. GLENTWORTH R. BUTLER of Brooklyn read a paper on

ACUTE GASTRO-INTESTINAL RHEUMATISM.

A brief synopsis was given of three cases in which severe abdominal pain, uncontrollable nausea, and decided constipation were preceded by or alternated with tonsillitis, and the acute articular symptoms of rheumatic fever. Certain considerations were presented which led the reader to conclude that these attacks were due to the varying action of the toxin of the as yet unidentified micro-organism which probably causes rheumatic fever. The principal clinical interest of such cases lies in their differentiation from other acute and painful abdominal affections.

SECTION IN SURGERY.

DR. J. H. GLASS of Utica read a paper, entitled

AN EXPERIMENT IN OVARIAN TRANSPLANTATION.

The experiment consisted in transplanting an ovary from a young girl to a woman who had been previously deprived by operation of both ovaries, and who had, in consequence, suffered considerably in her general health. As a result of this somewhat novel procedure, the woman receiving this donation had improved in her general health, and at the present time, eight months after the experiment, was almost restored, both mentally and physically. Not the least interesting result of the operation was the occurrence of erotic dreams, and of a menstrual flow within a few days.

DR. GEORGE M. EDEBOHLS characterized this result as a product of the imagination of the patient, and added that if it were not so surgeons desirous of performing such operations should take warning, and should be most careful in the selection of those from whom the ovaries are to be taken for transplantation, as it was well known that many women apparently possessing normal ovaries had almost no sexual instinct.

DR. A. PALMER DUDLEY defended the operation, claiming that the results were positive, and no longer purely experimental.

DR. J. W. WHITBECK of Rochester read a paper on

THE ADVANTAGES OF THE SUPRAPUBIC OVER VAGINAL CELIOTOMY.

Nine cases were selected and reported in order to illustrate the chief advantages of the suprapubic route.

DR. H. T. WILLIAMS of Rochester read a paper on

THE ADVANTAGES OF VAGINAL OVER SUPRAPUBIC CELIOTOMY IN CERTAIN DISEASES OF THE UTERUS AND APPENDAGES.

While admitting that the choice of the route must depend upon the surgeon and the individual case largely, he claimed as advantages of the vaginal route: (1) Greater rapidity in operating; (2) less shock; (3) better operative results; (4) the absence of an abdominal scar, and hence of a weak spot to favor the production of hernia.

DR. A. M. PHELPS of New York made some remarks on

LATERAL CURVATURE AND POTT'S DISEASE OF THE SPINE, WITH THE IMPROVED ALUMINIUM CORSET FOR THEIR TREATMENT.

He said that the differential diagnosis between lateral curvature and Pott's disease of the spine was rarely difficult. The spinal column is always flexible in lateral curvature, and rigid in Pott's disease. If, in addition to the rigidity, there were pain when the spine was bent forward, the diagnosis of Pott's disease would be confirmed. Extension and fixation should be the law in the management of Pott's disease, and extension and fixation should also be the law for cases of lateral curvature while the patient is in the upright posture. The aluminium corset is light, cleanly and durable, and the perfection of bracing.

DR. LOUIS A. WEIGEL of Rochester said that most orthopedic surgeons of the present day favor the treatment of lateral curvature of the spine by a combination of bracing and gymnastic exercises. Personally, he did not believe that any form of corset or steel brace was efficient in the treatment of the acute stage of Pott's disease. In this, he combined recumbency with spinal support. From a somewhat extensive experience in the use of aluminium in the manufacture of various orthopedic appliances, he was not disposed to look with much favor on the aluminium corset. The chief objection to it was on the score of durability. His experience had been that coating this metal with shellac, or first silver-plating it, and then japanning it, failed to give protection from the corrosive action of the perspiration.

DR. PHELPS said that by coating the aluminium frequently with a varnish made by dissolving shellac in alcohol, it could be protected from the action of the perspiration, and he knew of one corset that had been preserved by such methods for four years, and he saw no reason why they should not last ten or fifteen years.

DR. JOHN O. POLAK of New York reported

TWO UNIQUE CASES OF VESICOVAGINAL FISTULA,

and described the method adopted for their relief.

DR. E. W. MULLIGAN of Rochester presented a communication on

THE DIAGNOSIS AND SURGICAL TREATMENT OF GALL-STONES.

He directed special attention to the diagnostic significance of pain, on deep pressure, localized over the gall-bladder, and spoke of the frequency with which cholelithiasis was confounded with gastralgia. The operation of incision of the gall-bladder, removal of the calculi, and the return of the gall-bladder into the abdominal cavity, after suture, was associated with a certain amount of risk, owing to the liability of bile escaping into the peritoneal cavity. He therefore preferred the oldest of the three recognized operations—cholecystotomy— as it seemed to him the safest, and the one that had made for itself the best record. However, recent experience had taught him the superiority of using an S-shaped incision in doing this operation. The persistence of jaundice after operation he thought could often be explained by the fact that a small stone in the common duct had been overlooked.

DR. REGINALD H. SAYRE of New York presented a paper, entitled

THE MANAGEMENT OF LATERAL CURVATURE OF THE SPINE.

He expressed the opinion that a large proportion of cases of lateral curvature were the result of rickets or of paralysis, usually an infantile paralysis, while the balance were due to such causes as inequality in the length of the lower extremities, and pelvic inflammation involving the psoas muscle. After the position had been improved as much as possible, apparatus was necessary to maintain this improved posture, and in this work great aid would also be derived from appropriate gymnastic exercises.

DR. WILLIAM B. DE GARMO of New York read a paper on

THE TREATMENT OF UMBILICAL HERNIA.

He said that in operating in these cases it was rarely safe to make the incision in the median line, because the

skin and sac were apt to be intimately united at this point, and because it was not uncommon for the intestine to be adherent to the sac alone this line. Personally, he preferred an elliptical incision with removal of the umbilicus. It was most important to close the wound carefully, with several layers of sutures, employing relaxation sutures to prevent undue tension. After the operation the patient should wear an elastic belt.

DR. D. B. ST. JOHN ROOSA of New York presented a paper on

PANAS' OPERATION FOR] STRABISMUS.

He said that he did not propose to enter on a general discussion of the subject, but simply to bring the attention of the profession to a new operation, one which he thought added very much to our ability to correct strabismus by operation. He was not referring to latent squint. Professor Panas had laid stress on a fact, which had been apparently overlooked, *i.e.*, that strabismus is the result of an abnormal action of the muscles of *both* eyes. In the description of his operation, published last July, Professor Panas pointedly remarked: "The conception of the unilateral character of strabismus, while it is true of the paralytic variety, or that due to contraction of the muscle, is absolutely incorrect as to that which concerns concomitant strabismus." This fundamental conclusion, Dr. Roosa, said, had often been lost sight of in the setting forth of operative procedures for its relief. Professor Panas had operated in 210 cases, 180 of which had been a complete and immediate success. In the remaining 30, there still existed after operation a certain degree of convergence, but in none was there an over-effect. The operation was performed in the following manner: The patient having been placed under the influence of a general anesthetic, the conjunctiva was opened by a horizontal incision, and the tissues thoroughly divided about the sheath of the muscle in the usual manner. It was then taken up on the hook and pulled well outward so that the inner margin of the cornea was on a line with the external canthus. Previous experiments by Dianoux of Nantes had shown that there was no danger of rupturing the tendon by this traction. The tendon was then divided, the wound closed by suture, the operation repeated on the other eye, and both eyes bandaged for twenty-four or forty-eight hours.

DR. HERMAN KNAPP of New York read a paper on

GLIOMA OF THE RETINA.

In this communication he described the additions to our knowledge of this subject since his first paper on the same topic, read before this society thirty years ago. He described in great detail what is now known regarding the histology and pathology of this disorder, and referred briefly to the diagnosis, prognosis, and treatment.

DR. HENRY D. NOYES of New York presented a communication on

MEMBRANOUS CATARACT,

in which he described different types of this affection and exhibited the various instruments which, in his hands, had proved best suited to these different classes of cases. He said that the needle had been first devised by Hays of Philadelphia. For many cases he had found Graefe's iridotomy needle exceedingly useful. Sometimes two knife-needles would be required, in which case one should be used to counteract the traction on the ciliary body while dealing with these thick, tough membranes. The importance of the after-treatment should not be lost sight of.

DR. DANIEL LEWIS of New York read a paper, entitled

THE SURGERY OF MAMMARY CANCER.

Touching upon the danger of amputation of the breast he said that out of the 211 cases in which he had operated by opening the axilla there had been only two deaths and these had occurred in patients who had been septic at the time of the operation. Although a good deal has been said about the risk incurred from dividing the cancerous mass, the difficulty with which cancer could be inoculated even under favorable conditions and the lack of well-authenticated instances of infection with cancer among physicians and attendants upon cancer hospitals made him very sceptical regarding this alleged danger. It is well to remove the fat from the flaps because such tissue has poor vitality, and because its removal lessens the tension on the flaps. An important advance had been made in the treatment of cancer when the drainage-tube had been discarded, as this had often been the means of introducing air into the wound and preventing healing. The fewer ligatures employed the better the chances for rapid union. In dressing these cases a thick layer of cotton should be applied to the well breast and arm, the forearm being left free except for the support of a sling, instead of the more common plan of confining it to the chest. This mode of dressing added materially to the patient's comfort.

DR. ROSWELL PARK of Buffalo followed with a paper, entitled

FURTHER STUDY INTO THE NATURE AND FREQUENCY OF CANCER.

After calling attention to the appalling increase in the mortality from cancer in this State he described some of the results already achieved in the Laboratory of Research recently established by New York State. Those engaged in the work there had succeeded in finding in every specimen of cancer certain peculiar bodies, probably either protozoa or fungi, thus demonstrating, it seemed to him, the parasitic nature of this disease. This view had been confirmed by a series of very interesting and important inoculation experiments.

DR. JOSEPH D. BRYANT of New York then gave a historical sketch of the changes which our knowledge of cancer and its treatment had undergone since 1847, the time when it was the practice to remove the growth alone, or only such malignant manifestations as added greatly to the patient's discomfort. In 1847 Moore had laid down the principle that not only should the breast be amputated, but the incision should be made wide of the disease, and the fascia, glands, and adjacent fatty tissue should also be removed. As late as 1870 Paget had made the statement that he had himself never seen a cure, meaning by

that a case that had remained free from recurrence for a period of ten years. Gross, in 1880, had advocated the complete removal of the axillary contents whenever diseased glands were present, together with diseased tissue elsewhere. At the present time statistics collected from a large number of cases showed that the best results were secured by those who operated widely, *i. e.*, removed not only the mammary gland and fatty tissue, but also the contents of the axilla, except the vessels, a part of all of the pectoralis major, together with the subclavicular, supraclavicular, and subscapular glands. As a result of these improved operative methods the percentage of successful cases had risen from 9, in 1847, to 53 per cent., according to the latest report by Halsted. Dr. Bryant said that he did not regard the size of the tumor as any indication of the degree of infection, nor could any definite period of time be arbitrarily assumed as the limit, beyond which the original growth caused infection. Gross had demonstrated that in 6.5 per cent. of the cases in which the glands of the axilla had become infected the supraclavicular glands were likewise infected. Where the lymphatic glands of the axilla were not palpably involved in the disease at the time of operation the prognosis was better by one year.

Joint Session of Sections to Hear Addresses.

Dr. William Osler of Baltimore presented a paper on

some problems associated with typhoid fever.

[To appear in a future issue of the Medical News.]

Dr. Abraham Jacobi of New York read a paper on

the disinfection of the alimentary canal.

Normally, in the duodenum and jejunum, there are no putrefactive changes. These occur chiefly in the colon, and result in the formation of indol, phenol, skatol, hydrogen sulphid, and other compounds. Carbohydrates interfere with putrefaction, as also does milk to a certain extent. Free acids hinder putrefaction. Facts prove that auto-infection from the intestinal canal does exist. Intestinal antiseptics tend to paralyze bacteria and so prevent them from forming toxins, even though they are powerless to destroy these organisms, and bacteriologists are mistaken when they deny the efficiency of these so-called intestinal antiseptics. Cleansing out the intestinal canal by purgation is of value. Chlorate of potash and tannalbin preparations improve the condition of the mucous membrane of the bowel. Albuminoid putrefaction in the colon requires the use of farinaceous food and the exclusion from the diet of meats.

Evening Session.

the relation of medicine to civilization.

Anniversary address by the president, Dr. John O. Roe of Rochester.

The general advance in scientific knowledge has resulted not from progress in any one department, but from the simultaneous discoveries in each, from the consensus of the sciences as Spencer terms it, each contributing to the advancement of all the others. But no department has contributed so much to civilization in the prolongation of life and the general happiness of mankind as that of medicine.

Attention was then called to the relation of medicine to civilization, noting first, the influence of civilization on medicine, and secondly, the influence of medicine on civilization. Hippocrates was the first to infuse into the spirit of medical philosophy of his time the principle of investigation. Stimulated by this spirit, Alexander the Great founded the Alexandrian Library, which made itself felt in the works of Erasistratus and Herophilus in Medicine and in founding the great schools in Spain and Italy which preserved the science of medicine through the Dark Ages.

Medicine has derived assistance from the other sciences. Herbert Spencer says: "We find that to make a single good observation in the purest of the natural sciences, requires the combined aid of half a dozen other sciences."

In proportion to the investment civilization has derived from no other source so great dividends as it has from medicine; both for the life and health of humanity and the economic prosperity of the race. The importance of sanitary and antiseptic measures in the military service is illustrated by the fact that in the Middle Ages, and down to the time of the Crimean War, it was the rule for a greater number of soldiers to die of disease than from wounds. But in recent years in countries where sanitary measures have been observed the relative fatality due to disease has been greatly diminished. The most notable exception to this is our recent Spanish-American War. Much disease in this case may be attributed to the radical change of climate and an imperfect knowledge of the diseases peculiar to these regions; but by far the most potent cause was the utter disregard of sanitary measures by the War Department.

A new day for medicine is now dawning, when tradition, theory, and authority are no longer potent barriers to human perception; and speculation and metaphysics that have so long engrossed the intellectual world are now vanishing before the light of more substantial reason and methods based upon the discovery and demonstration of facts and their relations to the laws of Nature. This dawning day is the beginning of a new utilitarian era, when belief and experience will be measured by the data of demonstration, determined by the consensus of observation, and reduced to mathematical precision, when the charms of empiricism, the perplexities of individualism, the enigmas of prognosis, and the dark mystery of those protoplasmic laborers of the economy will vanish before the bright searchlight of the X-ray, bacteriology, and physiologic chemistry.

Medical science having fought many battles for life and liberty in the dark valleys of the past now stands a victor on the summit of the Nineteenth Century looking forward into the Twentieth and, like Hannibal of old, shouts exultantly to his brave and daring followers, "Beyond the Alps lies Italy."

THIRD DAY—FEBRUARY 2D.

MORNING SESSION.

The Committee on Nominations announced the following committees for the ensuing year:

Committee on Arrangements: Samuel B. Ward of Albany, William B. Nellis of Albany, and Reynold W. Wilcox of New York.

Committee on By-Laws: H. D. Wey of Elmira, Nathan Jacobson of Syracuse, and F. C. Curtis of Albany.

Committee on Prize Essays: J. M. Van Cott of Brooklyn, Abraham Jacobi of New York, William E. Krous of Buffalo.

Committee on Hygiene: Henry R. Hopkins of Buffalo, George R. Fowler of New York, Ezra H. Wilson of Brooklyn, J. M. Mosher of Albany, George Seymour of Utica, Henry Elsner of Syracuse, M. A. Veeder of Lyons.

Committee on Legislation: Frank Van Fleet of New York, Arthur G. Root of Albany, Ernest Wende of Buffalo.

Committee on Ethics: George McNaughton of Brooklyn, Charles Mason of Peekskill, Louis A. Weigel of Rochester.

Committee on Publication: F. C. Curtis of Albany, W. W. Potter of Buffalo, Charles H. Porter of Albany, Daniel Lewis of New York.

State Board of Medical Examiners: A. Walter Suiter of Herkimer, George Fowler of New York, H. D. Wey of Elmira, Daniel Lewis of New York.

Recommendation for Honorary Membership: W. W. Keen of Philadelphia, Morris H. Richardson of Boston.

Eligible for Honorary Membership: John B. Deaver of Philadelphia, Joseph Eastman of Indianapolis, William Osler of Baltimore.

Delegates were appointed to the following: Ontario Medical Association, Canadian Medical Association, American Electro-Therapeutic Association, Massachusetts Society, Connecticut Society, Vermont Society, New Hampshire Society, Medical Society of New Jersey, Mississippi Valley Association, Medical Society of Virginia, British Medical Association, Florida Medical Association.

Dr. A. Walter Suiter of Herkimer: Your Committee recommends earnestly that the Committee on Legislation of this Society prepare a bill making it a penal offense for any person to obtain from a charitable medical institution gratuitous services by persons financially able to compensate for the same in the same manner that under existing laws it is made a penal offense to obtain money under false pretenses. Your Committee would recommend that the Committee on Legislation be specially instructed to make every effort possible to effect the restoration of the original appropriations of $5000 for the care and maintenance of the State Medical Library and that the cooperation, in this respect, of the Legislative Committee of the Homeopathic and Eclectic Societies be requested.

DR. R. J. WILDING of Malone presented a paper upon

A FORM OF SUTURE SUITABLE FOR ABDOMINAL SURGERY.

DR. GEORGE M. MCCOMB of Frankfort read a paper on

THE LIMITATIONS OF SURGICAL WORK IN COUNTRY PRACTICE.

DR. LOUIS F. BISHOP or New York presented a paper on

THE DIFFERENTIATION OF THE DIFFERENT FORMS OF RHEUMATISM.

Diagnosis of neuritis depends upon the recollection of simple facts of anatomy and physiology. When a nerve is inflamed it is tender on pressure along its trunk. The reflexes are impaired. There are disturbances of sensation over the areas of distribution of the terminal fibers. Theoretically, the differentiation should be easy, but practically it is only made after careful study.

The next differentiation of importance is from the various forms of arthritis in which the rheumatic poisoning is not an active cause. Arthritis deformans is a condition of some rarity. It involves the ends of bone in proliferation, and the joint is finally lost. It must be differentiated from chronic rheumatism. Rheumatoid arthritis is characterized by nutritional disorders, well seen in the marked atrophy of muscles, changes in the joints, etc. It occurs more frequently among women.

From chronic gout the differentiation is easily made by the presence or absence of gouty deposits.

A very troublesome type is the arthritis following infection with the gonococcus; this seems to arise from accidental contact at the time a patient is suffering from a mild attack of rheumatism.

Acute articular rheumatism is a systemic disease with usual manifestations in the joints, but it is abundantly proven that rheumatism may manifest itself more injuriously in other directions.

DR. S. A. RUSSELL of Poughkeepsie presented a paper on

THE SCIENTIFIC ASPECT OF THE MIND CURE,

after which the Society adjourned.

REVIEWS.

DISEASES OF WOMEN. A Treatise on the Principles and Practice of Gynecology. For Students and Practitioners. By E. C. DUDLEY, A.M., M.D., Professor of Gynecology, Northwestern University Medical School; Gynecologist to St. Luke's Hospital, etc., Chicago. With 402 illustrations, of which 47 are in colors, and 2 colored plates. Philadelphia and New York: Lea Brothers & Co., 1898.

THE arrangement of this work is upon the basis of pathology. This is a departure from the old plan by which the subject was classified according to regions of the body. To the reader the arrangement is novel and strange, but to the student and one who considers the volume carefully it has great advantages. The book is divided into five sections. In the first, General Principles are considered, including the physiology of the subject, a clear review of bacteriology and a full de-

scription of methods for securing asepsis and antisepsis. In the matter of diagnosis, the book is thoroughly up to date. The recent work upon the bladder and ureters, which has so greatly enlarged the field of diagnosis, receives adequate attention. The matter of local treatment is also considered, The writer goes fully into the question of the value of topical applications, but has found little evidence of their utility. He describes minor operations in detail, and then proceeds to a full discussion of major operations. Upon the subject of drainage, he believes that when the surgeon is in doubt he should not drain. The author considers the subject of the relation of dress to diseases of women of sufficient importance to merit a separate chapter. This includes the most recent investigations upon the subject, and is of decided value.

In Part II. inflammation is taken up and the distinction between infection and inflammation very clearly brought out. This portion of the book should be of especial value to the student as furnishing a foundation for future studies in diagnosis. Inflammation of the uterus comes in natural order, and the writer treats fully of this most important subject. In the treatment of chronic endometritis, he states that he has used patiently and diligently all methods of topical application which are warranted. He has been disappointed in the results and in some cases has seen positive harm done. In considering pelvic inflammation, he believes that pelvic cellulitis exists, and considers fully the operative treatment by both the abdominal and vaginal routes of this procedure. This part of the book concludes with the discussion of inflammations and disorders of the urinary tract.

Tumors, tubal pregnancy and malformations are considered in Part III. The writer has faithfully tried the electrical treatment of myomata without essential success. He has little confidence in ligation of the uterine arteries and broad ligaments. He believes that vaginal removal of myomata should be given a larger place, and that the uterus should be preserved, if possible, in these cases. An original method of operating for this purpose is fully described. He believes that a very low death-rate for both abdominal and vaginal section in these cases is to be expected. In the treatment of carcinoma of the uterus, hysterectomy is indicated, if the womb is mobile and the surrounding tissues not involved. A very good description of deciduoma malignum is given in this portion of the book. An excellent description of ovarian tumors and their treatment comes next in order. In ectopic pregnancy, the author believes that all cases are first tubal and secondarily found in other portions of the genital tract.

In Part IV. the writer treats of lacerations of the perineum, vagina and cervix. We find here a full reiteration of the teachings of Emmet, with the added material obtained from the writer's experience. He combines with closure of the cervix, curetting. This section is exceedingly well written and thoroughly illustrated by some very good original drawings. In the treatment of displacements of the uterus, the author describes an original operation for anteflexion, which in about fifty cases has given one hundred per cent. of anatomical cures and seventy-five per cent. of symptomatic cures. A full chapter upon massage closes the volume.

Among thinking readers who desire a thoroughly modern book, this should be a valuable and popular work. Those who cannot appreciate efforts at progress may not be pleased with the arrangement of subjects and some of the treatment proposed. We have read the volume with great pleasure, and consider it a thoroughly modern textbook of decided value and a distinct acquisition to the literature upon the subject.

CONSERVATIVE GYNECOLOGY AND ELECTRO-THERAPEUTICS. A Practical Treatise on the Diseases of Women and Their Treatment by Electricity. By G. BETTON MASSEY, M.D., Physician to the Gynecologic Department of Howard Hospital and Late Electrotherapeutist to the Infirmary for Nervous Diseases, etc., Philadelphia. Third edition, revised, and greatly enlarged. Philadelphia: The F. A. Davis Company, 1898.

THAT the number of specialists in diseases of women who are interested in the use of electricity in pathologic conditions of the pelvic viscera is a large one would appear evident from the fact that a third edition of Dr. Massey's book has been called for. Ten or more years ago, when really remarkable results were claimed by well-known and competent experimenters in this department of gynecologic practice, many of the assertions made by the present author would have been received with a just appreciation of his wide experience and a higher value would have been placed upon them than is possible by the clinician of to-day.

During the past three years many learned medical societies have given much time to thorough discussion of the value of electricity in gynecology, and almost without exception, the consensus of opinion has been that its sphere of usefulness is confined to extremely narrow limits. Notably was the discussion by the members of the American Gynecological Society at Boston, in May, 1898, to this effect. For this reason, and because others have signally failed to achieve like results, we find it difficult to accept unreservedly many of the statements made by Dr. Massey in the book before us, for instance (page 106), that a neglected catarrhal metrosalpingitis, particularly of gonorrheal origin, is "as surely curable under positive vaginal applications, assisted by the faradic current and by subsequent intra-uterine treatment, as any similar catarrhal affection elsewhere in the body, the intra-uterine treatment being, of course, carefully employed with a view of increasing the drainage." Likewise, one is apt to evince surprise at the perfect results obtained in the case of a young woman who presented herself for treatment of hypertrophy and prolapse of the infravaginal portion of the cervix (page 188). "The cervix protruded about two inches beyond the vulva. On passing the sound into the cavity of the uterus it entered seven inches. Bimanual examination showed that the fundus was well up in the superior strait. The

condition had lasted two months. The protruding cervix was pushed within the vulva and an intra-uterine application of mercuro-cupric cataphoresis made with 80 milliamperes, followed by primary faradic current." On five subsequent occasions the treatment was repeated, with a current of 40 milliamperes, and two and one-half months from the time the patient was first treated the uterus was normal in size and position.

The Apostoli method of treatment of uterine fibroids is lauded, and instances of remarkable diminution in size, and even of complete cure, are related, so that one finally is forced to wonder why it is that myomectomy or hysterectomy is ever resorted to in these cases, and why, if such results are obtained at the hands of one or a few operators by means of the electrical current, other experienced gynecologists have long since given it up.

There is no gainsaying that the book bears the stamp of sincerity from cover to cover, and that it is the work of a man who believes thoroughly in the soundness of the principles laid down. Though he strives honestly to turn professional opinion back to a worship of its former gods it is a task, we opine, most difficult of accomplishment.

The book contains twelve original full-page chromolithographic plates, and twelve full-page half-tone plates of photographs taken from nature, as well as numerous engravings in the text. The publisher's work has been well done in every respect.

A TREATISE ON DISEASES OF THE EAR. By ALBERT H. BUCK, M.D., Clinical Professor of Diseases of the Ear, Medical Department, Columbia University. Third Revised Edition. New York: William Wood & Co., 1898.

PROFESSOR BUCK'S new edition of his text-book of ear diseases amply meets the demands of those advances in otology and aural surgery which have called the publication into requisition. The book is greatly improved by the use of larger type, more prominent headlines, and wider spacing. In addition the number of special case histories which interfered greatly with the continuity of the text in the previous editions, has been greatly reduced in the new one.

The chapter on the changes in the appearance of the membrana tympani has been much enlarged and given a more prominent position. A special chapter has been devoted to the study of those nasal and pharyngeal conditions which so often play an important rôle in the etiology of ear diseases. The chapters on mastoid disease, its complications, and treatment have been revised and enlarged.

CLEFT PALATE; TREATMENT OF SIMPLE FRACTURES BY OPERATION; DISEASES OF JOINTS; ANTRECTOMY; HERNIA, etc. By W. ARBUTHNOT LANE, M.S. London: The Medical Publishing Co., Ltd., 1898.

THIS is a collection of very practical clinical lectures on varied orthopedic topics, presenting some unique and original ideas. Particularly worthy of note is the theory of the mechanical production of arthritis deformans and the author's advocacy of operative interference in fractures, especially of the oblique variety. This latter procedure we take to be an "operation á outrance" when so sweepingly applied, as Lane would have it. Very sound is the advice given in the lecture on "Some of the Consequences of Wearing Boots." As one of the pioneers in the field of mastoid operations, Lane's experiences epitomized in the lecture on "antrectomy" merit due consideration. This collection presents well some of the advanced ideas of surgery.

THERAPEUTIC HINTS.

For Trigeminal Neuralgia.—

℞ Ext. cannabis indicæ . . . gr. viii
Ac. salicylici . . . . gr. lxxx.

M. Div. in chart. No. X. Sig. One powder three times a day in a cachet.—*Hirschkron.*

Orthoform for Toothache.—This drug, in alcoholic solution, applied on a bit of absorbent cotton to the inflamed pulp of a carious tooth has an immediate analgesic effect which continues for some time. There is no toxic action. —*Hildebrandt.*

Ointment for Stye.—

℞ Hydrargyri oxidi rubri . . . gr. iss
Vaselini . . . . . 3 v.

M. Ft. unguent. Sig. External use.

To Prevent Pitting in Smallpox. — Apply the following solution to the face and neck at frequent intervals so that the parts are kept lubricated.

℞ Hydrargyri chlor. corros. } aa . 3 iiss
Ext. opii }
Spiritus . . . . . *m.* liii
Glycerini . . . . . ʒ ii.

M. Sig. External use.

Of ten patients thus treated by LEBESGUE none showed cicatrices, and the pustules began to dry up on the fifth day.

For Gouty Nephritis.—

℞ Colchicin . . . . . gr. ¼
Quininæ sulphatis } aa . . . gr. xv.
Ext. colocynthidis }

M. Ft. pil. No. XV. Sig. One pill three times a day. —*Phillips.*

For Bronchiectasis with Fetid Expectoration.—PORCELLI recommends the following formulæ for a child twelve years of age:

℞ Plumbi acetatis . . . gr. ⅙–½
Terpin. hydratis . . . gr. ii–v
Pulv. ipecac. et opii . . . gr. iss–iiss.

M. Ft. pil. No. 1. Sig. Three or four such pills daily.

From time to time suspend the above and give this mixture:

℞ Guaiacol } aa . . 3 ii
Liq. potassii arsenitis }
Eucalyptol . . . . . 3 i.

M. Sig. Ten to twenty drops morning and evening.

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ORIGINAL ARTICLES.

PULMONARY AND LARYNGEAL TUBERCULOSIS TREATED WITH ANTIPHTHISIC SERUM T. R., WITH REMARKS ON THE ETIOLOGY OF TUBERCULOSIS.

BY W. FREUDENTHAL, M.D.,
OF NEW YORK.

IN a former paper I have said, with reference to the influence of post-nasal catarrh on the production of pulmonary tuberculosis: "According to our present experience, there is no doubt that infection with tuberculosis most frequently takes place through the respiratory organs. But I agree with Ponfick, with whom, by the way, Ziem also coincides, when he declares that the lungs can no longer be looked upon as the principal organs for the entrance of the tuberculous poison. To me it was always incomprehensible how the tubercle bacillus, during respiration, should penetrate the many tortuous respiratory passages, to finally build its nest at the apices of the lungs, which are so difficult to reach. Why do not other microscopic particles, inhaled in the air, do the same? Why does not soot, for example, not only enter the nose but also all parts of the lungs? If we suppose that tubercle bacilli are drawn away mechanically by the air current, I will not admit that, when inhaled in moderate quantities, they reach the apices of the lungs without their progress being previously checked. Imagine, for the sake of simplicity, the air current passing in a straight direction toward the retropharyngeal cavity. Here it turns at an acute angle, and it would be more than peculiar if the bacteria would not be held there by the moist mucosa. In addition, deeper down the air current is deviated at the entrance into the larynx by the various prominences, such as the epiglottis, arytenoids, etc., and again, and more especially, at the bifurcation of the trachea."

There is still another factor that makes the retropharynx the *locus minimæ resistentiæ*. The different kinds of bacteria, especially the cocci, according to the experiments of Babes, are prone to prepare the soil for the tubercle bacilli. Thus this factor also facilitates the entrance of the tubercle bacillus into the mucosa of these parts. Once having penetrated the lymph-tissue it wanders with the lymph-stream until it gets into the larger lymph-vessels, and finally into the thoracic duct. On its way thither the bacillus is quite frequently hindered or detained by stoppage of the vasa afferentia, etc., and the latent tuberculosis, so commonly met with, originates. On the other hand, the thoracic duct becomes the main source for the further spreading of the germs. From here the infection of the apices of the lungs, the *loci minoris resistentiæ*, proceeds.[1] It is evident that the organism frequently reacts against the invasion of the tubercle bacillus, and the glandular swellings, so common in children, appear. These lymphomata, often nothing else than a consequence of an existing retropharyngeal affection, bear the same relation to this condition as the inguinal bubo does to the primary affection in the genitals.

After bringing many more proofs in confirmation of my theory I came to the conclusion that the hypertrophy of the lymphoid tissue at the vault of the pharynx is nothing more than the expression of this reactionary inflammation. At that time I had overlooked an article by Professor Trautmann of Berlin, in which he says: "Although by careful examination of the hyperplastic tissue at the vault of the pharynx, of the follicles, and of the secretion, neither giant cells nor tubercle bacilli were found, I nevertheless consider tuberculosis the cause of the hyperplasia. . . . A communication made to me verbally by Robert Koch also speaks in favor of tuberculosis being the cause of the hypertrophy. After injection of tuberculin he found at first a rise of temperature, then more swelling and hyperplasia of the lymphoid tissue, and after further injections both disappeared and the hyperplasia was cured, but not until treatment extended over several months."

I cannot mention here all the facts that have been elicited in favor of my theory; I will only say that Pluder and Fischer,[2] in an article that appeared almost on the same day as mine, came to very similar conclusions. They believe that the five cases which they mention must be considered as latent and *primary* tuberculosis. They explain their ideas about the propagation of the tuberculous virus in the system in a very interesting manner, for details of which I would refer the reader to the original paper. I have examined numerous patients and have found

[1] W. Freudenthal: "Kleinere Beitrage zur Aetiologie der Lungen-tuberkulose," *Arch. fur Laryngol.*, Bd. 5, 1896, and *Annals of Otology*, February, 1897.

[2] F. Pluder und W. Fischer "Ueber primäre latente Tuberkulose," etc., *Archiv für Laryngologie*, Bd. iv, page 372.

that a great many have affections of the retropharynx, and that of these a certain percentage show tuberculous lesions in the lungs. I did not draw any definite conclusions in regard to the percentage of cases of phthisis among those affected with nasal and postnasal disease but attempted to show that a direct connection exists between affections of the retropharynx or nose and general tuberculosis; in other words, that the disease commonly called "catarrh" frequently leads to tuberculosis.

Dr. E. Fletcher Ingals of Chicago has asserted that "catarrh" has a tendency to prevent tuberculosis.[1] He says that "38 per cent. of the human family at one time or another suffer from pulmonary tuberculosis, as against about 75 per cent. with diseases of the upper air passages, or nasal catarrh." This is as much as, or even more, than I expected, but he says further, that of these 38 per cent. with tuberculosis comparatively few suffer from nasal disease. Thus, for example, of his 830 cases of pulmonary tuberculosis, only 237, or about 28 per cent., showed some nasal trouble. "Of the 237 cases which make up this 28 per cent. I find that 168 consisted of exostosis and deflection of the septum, which . . . is present in 50 per cent. of all persons of the European race; *therefore many of these would have had no possible influence* in causing the pulmonary tuberculosis." I fail to see the logic of Dr. Ingals' conclusions. Because 50 per cent. of all Europeans have deflections of the septum, must we exclude them from our statistics? Are deflections of the nasal septum to be considered normal because so many civilized people have acquired them? We might as well say that gonorrhea in man is a normal condition because so many cases exist. Deflection of the nasal septum is a pathologic condition which also tends to produce postnasal catarrh and I consider it a very important etiologic factor in favor of our theory. But Dr. Ingals goes on to exclude other possibilities by saying: "Further, my records show that of all the cases of pulmonary tuberculosis, 1272 in number, only 27 of the patients, or about 2 per cent., complained of having had any previous nasal disease, which is 4 per cent. less than the normal average." His position must be very weak if he is forced to fall back on such arguments. Were we to be guided by the complaints of the patient, we would, for instance, still have to treat many cases of persistent headache as malaria and fill the patient with quinin and similar drugs, as we formerly did. We would never be justified in removing polypi, etc., in cases of asthma because the patient does not complain of his nose.

[1] *Annals of Otology, Rhinology and Laryngology*, p. 173, February, 1898.

About thirteen years ago, while pursuing other investigations, I examined the nasal passages of every patient, 500 altogether, that came to the Hospital for the Ruptured and Crippled, this city, and was surprised to notice how seldom the patients complained of their noses. I remember several instances in which grown persons could not breathe through their noses at all, since they were almost hermetically stopped up by numerous polypi, etc., and nevertheless they had no complaints to make. In regard to tuberculous patients, I examined 75 of the consumptives at the Montefiore Home. Of these 37 did not complain at all about the throat or nose, and 38 did, *i.e.*, about half on each side. Of the 37 patients who did not complain, not less than 23 showed marked abnormalties in their nasal passages and in only 14 were there no marked changes at all. Although these statistics are not extensive, I am sure that they will convincingly prove that consumptives suffer from nose and throat troubles, not only as much so, but more than other people. Two thirds of those who did not complain had some kind of affection of the throat or nose, and naturally the others, who did complain, showed lesions of the parts also.

The question of the treatment of tuberculosis with the new tuberculin T. R. has been a burning one since Koch published the result of his experiments with the agent nearly three years ago. It was during the course of certain experiments which I was making with tuberculin T. R. that I came across three publications from Professor v. Leyden's clinic, which almost made me give up my investigations. On looking over these papers, however, they did not seem to me to be altogether exempt from criticism. The first paper was that by Dr. Huber, assistant to v. Leyden, who made experiments with the new tuberculin T. R. on animals, and arrived at the conclusion that it had no therapeutic value. His deductions were contradicted by Professor Brieger, Dr. Petruschky, and others. Still, we must admit that his conclusions were correct in one point, *viz.*, that in one or two of his experiments virulent tubercle bacilli were present in the new tuberculin. But since September, 1897, this defect has been remedied. Nor were his practical experiments on patients more successful. In five advanced cases there was no influence visible. In two cases that were doubtful the status of the patients remained unchanged. In three cases, which were suitable for this treatment, in which, however, the injections were interrupted prematurely, one patient was somewhat improved, while the others remained unchanged. In four cases in which the treatment was specially indicated, the

condition of one patient remained unchanged, the second was almost cured, but only temporarily, as he afterward developed miliary tuberculosis, and the other two were materially improved. Similar results were obtained by Dr. Burghart in the female wards of v. Leyden's clinic. In the same number of the *Berliner klinische Wochenschrift* (p. 146, 1898) Dr. Alb. Raude reports three cases of pulmonary tuberculosis treated with T. R. One patient got worse and died, while the two others improved markedly; one gained six pounds and the other twenty pounds in weight.

In the Berlin "Gesellschaft der Charité-Aerzte" on February 10, 1898, there was a heated debate on this topic. This society was apparently divided into two parties; on the one side was the Institution for Infectious Diseases (Koch, Brieger, Marx), and on the other side were the clinicians. As the result of this discussion it might be said in the words of the president, Dr. Schaper, that one point seems to be evident, *viz.:* that it is effective only in the relatively pure cases of bacillary tuberculosis, not in so-called mixed infections.

Last July, in St. Louis, I had the opportunity to see Dr. Carl Fisch's experiments. He was immunizing horses with this new tuberculin T. R., and he was fairly confident of producing in this way a serum that would contain more antitoxic properties than former serums. All of his experiments were published in the *Journal of the American Medical Association* for October 30, 1897, and, as they seemed to me not only scientific but rational, I gave this antiphthisic serum a trial. I commenced using the injections at the Montefiore Home for Chronic Invalids on February 24, and stopped April 8, 1898. With but few interruptions the four patients received daily injections of ½ c.c. I increased the dose rapidly to 1 c.c., but had to reduce it again in the case of three patients on account of the severe reaction. Only one patient could stand 1 c.c., and that only for a comparatively short time. This patient received injections of the old tuberculin seven years ago in the German Hospital, and he could stand these new injections much better than any of the other three patients. The histories are as follows:

CASE I.—Marcus G., aged forty-one years; occupation, furrier; nativity, Hungary; married. Family history negative. Previous history: Sick since April 1, 1895. Began as inflammation of lungs; four months in bed. August, 1896, hemorrhage; no night-sweats; loss of flesh. At present he coughs much, expectoration is profuse and yellow; no night-sweats; no loss of weight; bowels regular; appetite poor.

Physical examination: Chest flattened; retraction over both clavicles, especially right; expansion slight. Dulness at both apices, especially right. Medium coarse, moist râles over upper right lung. Fine moist râles right interscapular region. Moist râles all over right lung. Vocal resonance increased, right side. Few moist râles on left side anteriorly. Harsh respiration with prolonged expiration. Slight bronchophony.

Status April 8, 1898: Marked dulness over right lung, anteriorly; on left side slight supraclavicular dulness; below clavicle concussion-note normal. Swollen gland over left clavicle. Right lung, posteriorly, dulness to middle of scapula. Left lung, posteriorly, percussion-note normal. Sonorous moist râles all over left lung. Vesicular breathing anteriorly and posteriorly. Patient feels better and sleeps better; appetite better; coughs less. On March 2d 1 c.c. of the serum was injected but on the next day the patient felt very poorly. His temperature rose to 101° F., and the injections, therefore, were stopped for three days. After this he received an injection regularly every day, except once when he was very weak.

Although this case did not seem to me to be one of pure bacillary infection, I must say that the serum treatment had no deleterious effect on his condition. On the contrary, the left side is freer than it was before. The right lung is unchanged, and the patient's weight remained stationary. Bacilli were present in the sputum after treatment was discontinued. As a whole, his condition was perhaps somewhat improved.

CASE II.—S. F., aged twenty-one years; occupation, furrier. Family history negative. Previous history: Always well; eight months previously began to cough and expectorate; pain in chest; hemoptysis, night-sweats, etc. Complains at present of severe cough night and morning; free expectoration, somewhat darker than pus; night-sweats; loss of flesh; appetite is good and bowels regular.

Physical examination: Chest fairly developed, but slightly retracted over clavicles; expansion diminished on both sides. Vocal fremitus slightly increased on left side. Dulness at left apex marked; slight dulness at right apex. Hard breathing over entire upper right lung, with prolonged expiration. Fine and moist râles and occasional rhonchi over the middle of the right lung anteriorly. Prolonged expiration at left apex with coarse moist râles and sonorous rhonchi. Fine and medium râles left side, at the bifurcation of the bronchi behind. Injections were commenced on February 24, 1898.

Status April 8, 1898. Dulness in left supraclavicular region marked; on right side very little dulness. Small crepitant râles, left side, anteriorly, down to third rib; right side, anteriorly, breathing normal. Slight dulness in left posterior supraclavicular region. Breathing, left lung, posteriorly, harsh, with few moist râles. The patient felt about the same as before the injections were commenced. There was an infiltration of both ventricular lips of

the larynx intra-arytenoid space. Ulceration of the left vocal lip.

This case did not run as smoothly as the first one. At the commencement of the treatment the man had laryngitis, which grew worse and later showed distinct tubercular infiltration and ulceration. After receiving 1 c.c. of serum on March 2d, his temperature rose to 102.4° F., and then to 103.3° F. From March 3d to 7th we refrained from giving the injections. On March 8th he again received ½ c.c., but on the three following days he felt so bad that we had to stop them again, a hemorrhage having occurred during the night of March 8th. The ulcerations in his larynx then developed more rapidly and were relieved by daily insufflations of orthoform. When these were omitted the pains in the larynx returned. On March 30th an attack of syncope followed the injection but he recovered promptly. I, therefore, again omitted the serum for three days. He lost 7½ pounds in weight.

CASE III.—P. V. G., occupation, electrician. Family history negative. Previous history: Was well up to 1890; then had bronchopneumonia and was in bed four months. His cough persisted and after being examined he was advised to take Koch's lymph, November, 1890. In May, 1891, he went to the Adirondacks and then to Asheville, where he gained weight up to 145 pounds. At the time of admission he coughed very little and only in the morning. Expectoration was very scanty and yellowish; local sweats on neck; appetite poor; bowels regular. Physical examination: Chest flattened, expansion diminished; vocal fremitus increased on left side. Slight dulness over both apices, especially the left, extending down to third rib. Harsh respiration, with prolonged expiration at left apex. In first, second, and third interspaces, a little internal to the mammillary line, cavernous respiration, and whispering pectoriloquy. Fine, medium-moist râles at left apex. Inspiratory râles at both apices. Fine moist râles at bifurcation of the bronchi posteriorly. Bronchial breathing in left suprascapular region. Status April 8, 1898: Dulness in left supraclavicular region, slight dulness right supraclavicular. Slight dulness left infraclavicular region. Harsh breathing left lung anteriorly. Small crepitant râles second intercostal space, right lung anterior. Dulness left lung posteriorly to middle of scapula, left lung posteriorly. Pleuritic friction-sounds also at the base of lung in left axillary line. Cough has ceased entirely; appetite poor. Feels better.

This patient could stand the injections better than any of the others, probably because he had undergone tuberculin treatment seven years before. There was little or no reaction, his temperature seldom rising above 99° F. For some time he complained of pains in the arms, shoulders, etc., which I consider was due to the injections. His appetite as a rule, was poor, but he secretly indulged in whisky. On the left side a pleurisy set in, which I purposely did not treat at all, but otherwise the condition of his lungs was improved. His weight remained about the same and he was discharged from the Home as he wanted to commence work.

CASE IV.—L. H., aged twenty-five years; occupation, tailor. A brother had died of tuberculosis. Since May, 1897, the patient had had hemoptyses and night-sweats; had lost twenty pounds in weight. He had cough, especially in the morning, and his expectoration was scanty and white. No night-sweats; gaining in weight; appetite good, bowels regular. Both apices were retracted and expansion limited. Dulness over both apices. Tactile fremitus increased on both sides. Harsh breathing right lung anteriorly and prolonged expiration at the left apex. A few fine râles over left bronchus behind. Vocal resonance increased on both sides. Status April 12, 1898: Dulness supraclavicular region, left side; also slight dulness up to upper border of third rib. Dulness over upper portion of the left lung in the axillary line and dulness in the suprascapular region posteriorly. Dulness in the supraclavicular region, right side. Less marked dulness infraclavicular region down to second interspace. Slightly diminished breathing over entire anterior aspect of left lung, accompanied by numerous moist and crepitant râles. Diminished breathing left side posteriorly with many moist râles in the suprascapular and interscapular region. Breathing diminished over entire right lung. A few crepitant râles over upper lobe. Patient's weight, 107½ pounds.

This patient could not bear the serum, and although at times I had hopes that he would become accustomed to it he again and again showed marked reaction, lost in flesh constantly (altogether 10½ pounds) and finally grew worse under the treatment. Urticaria at one time was very marked.

Although these results are not so gratifying as those obtained by Dr. Carl Fisch or by Dr. A. M. Holmes of Denver, nor as unfavorable as those of Dr. F. E. Waxham of Denver, I must say that I am of the opinion that this new serum is a remedy which should be tried much more extensively. When we have a series of hundreds of cases, carefully watched and recorded, we will be better able to pass judgment on its value. Until then all well-observed cases will help to form an opinion, and in furtherance of this object this report is published.

A Good Showing for Columbia.—Graduates of forty-three different medical schools have tried the State examinations in Minnesota during the past ten years. The College of Physicians and Surgeons of this city has the best record of all since no one of her graduates who took the examinations failed to passed at the first trial.

THE RELATION OF THE STATE TO THE CONSUMPTIVE, WITH SPECIAL REFERENCE TO PREVENTION OF THE DISEASE AND STATE CARE OF THE INCIPIENT CONSUMPTIVE.[1]

BY JOHN H. PRYOR, M.D.,
OF BUFFALO, N. Y.

IN a paper read before this society last year I presented briefly some arguments in favor of more thorough prevention from tuberculosis and the necessity for special hospitals near home for advanced cases.

The establishment of a State hospital for incipient consumptives in the Adirondack Mountains on land owned by the State was strongly urged, and State care of these cases advocated. Since that time a resolution authorizing the appointment of a committee of three senators to investigate and report upon the advisability of establishing a State hospital for incipient consumptives in the Adirondacks passed the State Senate, and $500 was appropriated to defray the expense of such investigation. By the adoption of this resolution the State of New York recognized for the first time the importance of considering the matter of tuberculosis in the human being. The Senate Committee has reported strongly in favor of the plan and the results of its investigations are exhaustive and valuable. During the present session of the Legislature a bill has been introduced in the Senate and Assembly, entitled "An Act to establish a State hospital in the forest preserves of the Adirondack Mountains for the treatment of incipient tuberculosis and making an appropriation therefor." A resolution has also been introduced authorizing the State board to publish and distribute literature relative to the infection of tuberculosis and the proper method of prevention.

In view of these facts a brief consideration of the relation of the consumptive to the State is peculiarly appropriate at this time. About 14,000 die from consumption in this State each year. This is equivalent to the depopulation of a small city annually. The death-rate is higher than that of all other infectious diseases combined. About eleven per cent. of all deaths are due to this one disease and approximately one of every five more than twenty-one years of age suffers from it. Accurate, honest reports would increase the figures given. At the lowest estimate there are more than 50,000 consumptives in this State and it is probable that a number as large as our standing army is marching steadily, constantly to the grave. Of the 5,000,000 people now living in New York State about 600,000 will probably die of consumption.

[1] Read at the Ninety-third Annual Meeting of the Medical Society of the State of New York, held at Albany, January 31 and February 1 and 2, 1899.

Of all the causes of suffering, distress, and destitution consumption stands at the head. The public has become accustomed to its slow ravages and results, and the "white scourge" has been accepted as an old and necessary evil. From a humane and economic standpoint the effect is appalling and seems to be everlasting. The physician who is familiar with the woes and hardships of the consumptive is inclined to ask: Is this widespread suffering and enormous loss necessary and tolerable when opposed to all modern ideas and advanced knowledge? Ignorance may make neglect excusable, but knowledge reveals more and more the shameful course of dealing with tuberculosis in an antiquated, obsolete, unscientific manner. The medical profession knows that tuberculosis is infectious, largely preventable and curable at an early stage in a large percentage of cases. How much has this recent advance in our knowledge of the disease benefited the public and the consumptive? The public is not properly protected and the victim's distress is increased because he is shunned and finds it harder to obtain employment. The fortunate avoid the unfortunate and weakly attempt, through selfish interest to force the consumptive into isolation. Education is accomplishing something and boards of health, by the employment of partial measures, prevent, to a certain extent, the spread of the disease.

The number of deaths in this State remains almost stationary in spite of the increase of population. This may be due to special effort but there is room for doubt. It will be found that the general death-rate has decreased as sanitary conditions have improved, but tuberculosis has not diminished relatively with other infectious diseases. Certainly the prevalence of tuberculosis at the present time demonstrates the inadequacy of the methods of prevention employed or a lack of thoroughness in execution. The slight attempts at prevention have naturally failed because they were too limited in scope and have been feebly supported, evaded, or opposed by the medical profession.

The public should demand the same immunity from tuberculosis as it receives from other infectious diseases. Emotional objections in favor of concealment, fatal delay, and selfish interests should be swept aside.

The greatest known menace to public health holds its awful sway unchecked simply because well-known and efficient methods are not employed to combat it. The blame rests upon the medical profession. As the guardians of the health of the State united advocacy would insure radical action and incalculable benefits. If necessary requests and ordinance should give way to law and compulsory enforcement. The

sentimental plea that thorough measures of prevention would prove harsh and add hardship to affliction has cost the State thousands of valuable lives by misleading and deceiving the community. To secure systematic, thorough, and continuous effort the power should emanate from the State.

The State Board of Health can, through legislative enactment, adopt and enforce measures which will prevent; to take the place of local subterfuges which promise little except delusion. Or the matter can be left to a commission to investigate and report upon a consistent plan designed to be obeyed and not evaded. About a century before the cause and nature of tuberculosis were known attempts at prevention in Italy were more determined and more successful than in this day of advanced knowledge and enlightened civilization.

Everywhere a crusade against consumption is winning hearty support, and scientific methods of dealing with the problem will appeal to intelligent beings.

Why should New York State lag behind, and neglect and apathy continue? The time has arrived to listen to the advanced thought and rational appeals of those who have long urged common-sense relief for a vast evil. Isolation is in most instances practically impossible, now, but proper precautions may make it unnecessary. Segregation should be employed among the poor, and special hospitals near large centers of population will furnish the best means for caring for the advanced cases. Better treatment and segregation are thus combined. Registration of cases—instructions to the patient or relatives—inspection of food-supplies, destruction of expectoration, prohibition of promiscuous spitting, and particularly disinfection should be rigidly enforced. Why Boards of Health should be denied information concerning this one infectious disease, and efforts to eradicate should be frustrated may some day be answered. Then the reason may be discussed along with other obsolete ideas, such as the exaggerated importance of heredity and the long list of discarded remedies.

The means of prevention already mentioned and often advised will be incomplete unless combined with or preceded by one of the most important and promising. I refer to the State care of the incipient consumptive. The plan will secure complete isolation before the consumptive becomes a source of much danger and offspring practically made impossible. The patient can be removed from the public before he distributes material sufficient to infect many others. Furthermore, he is offered the only opportunity to recover or receive treatment which promises anything. Ideal isolation can be thus obtained.

The most sanguine expectations based upon efficient modes of prevention can only be realized in the course of time, and meanwhile any interest in the welfare of the consumptive will lead to the inquiry, as to what is done, and what can be done in the way of relief and cure. At present the manner of treatment and assistance received by the consumptive is stupid, inhuman, and unscientific. It can only be compared to the management of the insane in medieval times.

He struggles wretchedly along, as a rule, under palliative, or experimental treatment; tries the last new thing or latest device of quackery; spreads the disease and is shunned by his fellows until work is unobtainable or impossible, and then waits for death in his home or a hospital, where he may infect others or acquire mixed infection himself. He belongs to the only class of afflicted for whom no intelligent provision has been made. The conditions and the circumstances surrounding his distress make him the unique pathetic victim of an anomaly in our system of charities. Every other sufferer is given desired treatment, and a chance to regain health if possible. His only hope lies in a prolonged stay in a favorable climate, and that can only be procured by the well-to-do. Thousands die simply because they are poor and cannot obtain help at the proper time. Useless aid and pauperization is offered when too late. The consumptive should be cared for until he is well, not until he is dead.

We are working at the wrong end of the problem. The idea that consumption is necessarily fatal must be combatted and there can be no good reason why the consumptive alone should be denied any chance to fight for his life. As a rule they are industrious workers and belong to the intelligent class. The distinguished pioneer, Dr. E. L. Trudeau, and many others have shown that fifty per cent. of consumptives recover under suitable sanatorium treatment, and that in a large percentage of cases the condition is improved and life prolonged.

Clinical results furnish the best tests of any climate and the percentage of recoveries depends largely upon the selection of cases. Fortunately the State owns a large tract of land in the Adirondack Mountains, where excellent results have been obtained. What objection can there be to caring for consumptives in the right place instead of the wrong place? One offers nothing, the other much, and the cost is practically the same. Vast sums of money are now expended by individuals, the county, and the city upon the poor consumptive, when it is too late—the same amount could be shifted to a wise purpose.

There are many reasons why the State should as-

sume the care of the incipient consumptive and the objections to such action are easily answered. The proper location for institutions to care for the early consumptive cannot be found in this State except in certain regions more or less removed from the center of population. The crusade against tuberculosis and the treatment of curable cases can only be undertaken by the State because of expense and the necessity for avoiding multiplicity of institutions and the consequent increase of officers and salaries. A well-defined and consistent plan can be followed, appropriations controlled, and advanced scientific treatment and investigation promoted.

The State was forced to assume the care of the insane, feeble-minded, and epileptic, first as a protection to the public from physical violence, and finally to secure more humane and scientific treatment. The new proposition of State aid for the sick is supported by the facts springing from a unique modern social evil. The consumptive requires special treatment in a locality known to be beneficial. No other treatment promises anything. No other class of victims of disease needs this help which only the State can provide.

Isolation is obtained by humanitarian means. One of the most important benefits procurable by State care is education of the individual and the masses. The expense of State care will hurry determined efforts at prevention and the folly of neglecting to attack the cause will appear when the cost of its effects are made plain. Provision for relief will lead to an early diagnosis. This would become of vital importance. It is now receiving slight attention. Under the provision of the bill now before the Legislature every applicant for admission must obtain a certificate from experts appointed as examiners; otherwise any sanatorium will become a home for alleged early consumptives with mixed infection, toxemia, and marked destruction of lung tissue. The dangers of reinfection in institutional life can be obviated by strict precautions for the statistics of Falkenstein, Göebersdorf, and other places furnish complete proof that sanatoriums for consumptives, instead of increasing the disease in neighboring districts, tend to diminish the death-rate to a remarkable degree by education. Investigation seems to show that the cottage or pavilion plan is the most advantageous from every standpoint.

The absence from home and the duration of care will be long. Sufficient time should elapse to secure recovery if possible. While under treatment the patient ceases to be self-supporting; his earnings stop, and others may be left dependent. Now he is cared for about as long when his condition is hopeless. The earning capacity soon ceases forever and the dependents must be assisted indefinitely. In one instance assistance will restore health and earning capacity, or improvement with a probable period of employment. In the other there is prolonged, often useless suffering, continued expense or destitution.

The climate in the Adirondacks is not so widely different from other localities in this State as to preclude a safe return and stay at home after recovery. This constitutes a decided advantage in favor of certain regions in this State.

Again the tendency to recurrence is largely avoided by those who have been educated to discriminate between hygienic surroundings and vicious habits and environments which encourage disease. The skeptical may ask, Will the patients go? There has been no difficulty in that way anywhere. What the consumptive desires is a chance, and every physician of experience has grown weary of the advice to go away and get well, and the pathetic reply from clerk, bookkeeper, business, and professional man, and the wage-earner—"I can't afford it, and therefore must work and die."

The expense per patient should not exceed $250 per year. The Massachusetts State Hospital for Consumptives, recently opened, charges $3.50 per week for those who can afford to pay. Of the first eighty-six inmates, fifty were pay patients. An institution for consumptives in the incipient stage should be largely self-supporting. The following objections to State care have been raised: First, the expense will be enormous. Second, it is a dangerous innovation, and will lead to many demands for the relief of the sick. Third, only a small proportion can be benefited, and the ultimate good will be slight because the disease is widespread.

Two of these objections can be dismissed with brief comment. There are special reasons why the consumptive needs unusual aid. The appropriation asked for at this session of the Legislature is $200,000 to build and equip a hospital for 200 or more patients. There must be a beginning, and it is better to save a few and demonstrate the wisdom of the project than do nothing because more cannot be accomplished. The future expenditure will depend upon the wisdom of the Legislature whether the proposed expenditure is justifiable and opens the way for a new and extravagant use of the State money; this can be considered from a humane and economical standpoint.

The humanitarian side of the question is all summed up in the query, "Shall something be done for the consumptive as well as for others suffering from disease in the only rational way that promises anything, or shall the old, wasteful, cruel let-alone policy prevail?"

On the economic side the presentation of a few figures and statistics supply the best argument. Any estimate of the loss to the State by illness and death must be somewhat inaccurate and only approach the approximate. The method will depend upon individual opinion concerning the theory and technic of statistics. According to the German statistics method, it costs $1500 to rear and educate a citizen, and it is declared to be worth that to the State. If the American be worth only $1000 to this State, and 14,000 die each year from consumption, the first loss will be $14,000,000. The vast majority of consumptives die between the age of eighteen and forty years. Assuming that each would have fifteen years more of earning capacity, and the amount earned is only $500 per year the figures become more startling. Now add the unnecessary expense for illness contributed by the individual and the taxpayer, the cost of aid to the dependents, and the loss by infection and degeneracy of offspring. The preventible loss is enormous—millions upon millions. Can any one doubt that the wise expenditure of only a part of this vast sum during a series of years would make consumption an uncommon disease instead of the saddest thing in the world? How could the State invest more safely, and be more sure of a big return on a purely financial basis? Whether State care will pay can be estimated on the cost and returns for a few.

The expense per patient need not exceed $250 per year, and the average length of stay for early cases should be less than that. Carefully selected cases should yield sixty per cent. of recoveries, and an unknown number should be sufficiently improved and the disease checked long enough to permit renewed employment for an indefinite time. A glance will show that the venture will be remunerative, as it has been everywhere else. Each will be the recipient of special education. If the investment pays the insurance companies in Germany, it should pay the State.

In a special and classical report on pulmonary tuberculosis, issued by the Board of Health of New York City in 1897, the following statement is found: "We are convinced that no factor is so patent to-day in perpetrating that ominous death-list from pulmonary tuberculosis as the lack of proper facilities for the care of the poor of this city stricken with the malady." State care will not create a new expense, but money now misspent by city and county will be used at a proper time and in a sensible manner. The scheme seems vast, but the problem is stupendous. It has assumed proportions of magnitude through years of blindness and neglect. Since the presentation of this project last year, precedent has added strength to the suggestion. Massachusetts has built and recently opened a State Hospital for Consumptives, and other States are moving rapidly in the same direction.

There are hopeful signs that the lead of Europe will be followed, and the "white plague" attacked along modern lines dictated by humane and intelligent ideas. Determined action should be taken now. I believe, in this instance, the intelligent public is in advance of the medical profession. Continued delay is almost incomprehensible. When threatened by cholera or epidemic, fear compels hasty and vigorous remedies regardless of expense—yet the ceaseless and fearfully destructive march of tuberculosis moves on unmolested, except by a small annual crop of medical essays which fail to elicit earnest or lasting attention.

In conclusion, there are strong reasons for the belief that death-rate from tuberculosis can be diminished fifty per cent. in ten years by the enforcement of well known safeguards. The gravity and extent of the evil is so great, and the difficulties to be encountered so numerous that centralization and action by the State will alone give a guarantee of prompt and sure results. Power to enforce and control prevention should be given the State Board of Health on the recommendation of a special State Commission appointed to investigate and report upon the best means designed to check the spread of tuberculosis, should be adopted and placed under the jurisdiction and supervision of the State Board of Health. State care of the incipient consumptive, so far as practicable, should be heartily encouraged. Recognition by the State, of the dread disease, and its duty to human victims is of pre-eminent importance. The proper care of the incipient consumptive is the most vital, philanthropic, and economic problem of our time, and efficient prevention must precede or accompany enlightened relief.

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*INGROWING NAIL; A COMPARISON OF METHODS OF OPERATION.**

BY EDWARD MILTON FOOTE, M.D.,
OF NEW YORK;
ASSISTANT-SURGEON TO THE VANDERBILT CLINIC.

THE numbers of the "Index Medicus" published during this decade contain more than thirty references to the operative treatment of ingrowing nail. Some of the writers describe operations, original with them no doubt, which have been many times performed and frequently reported in the previous decade, or the decade before that, or for that matter in some other century, for operations for this trouble have been performed since the dawn of surgery.

* Read before the Surgical Section of the New York Academy of Medicine, January 9, 1899. For discussion see page 223.

Amat,[1] a Frenchman, in a short article upon this subject, published in 1889, gives no less than fifty-seven references; while Gosselin, whose ingenious operation has been one of those most frequently rediscovered, said in 1873: "There are few surgical troubles for which so many varieties of local treatment have been proposed. I have counted seventy-five different kinds which have been inspired by the desire to prevent recurrence."

I have no thought to call from oblivion for your malediction the names of these seventy-five inventors. Many of them have long since met the reproaches of their unhappy victims. If the good that some of them suggested had outlived all the evil done by the others there would be no excuse for this review of the subject. Unfortunately, however, within our own time there have been men who, with right and left curved chisels, struck off one side or the other of the toe, including flesh, nail, and possibly a bit of the bone; others are still driving gouges blindly into the matrix, or performing some other barbarous operation.

Several theories have been advanced to explain the occurrence of ingrowing nail. Pointed shoes, neglect of the toes, and a habit of paring away the corners of the nails are generally admitted to be the chief factors of the etiology. They are not, however, the only factors. One of the daintiest women I ever saw had an ingrowing nail on each foot, which for more than a year resisted all her attempts to effect a cure with salves and cotton pushed under the sharp edges of the nails. I operated once upon a girl of thirteen, whose little sister, aged five, had a well-marked depression of the edges of both great toe-nails. Profiting by the experience of her older sister the mother had taken every precaution since the little one's infancy to guard against ingrowing nails. The shoes had always been of the best pattern and the toes were carefully tended, yet there were the edges of the delicate little nails pressing down deep into the flesh ready to cause an ulceration as soon as the least traumatism gave them a start.

When once an ulcer is formed the edge of the nail acts as a foreign body and keeps up the inflammation. Such is the immediate cause of the trouble; and without attempting to settle the ancient dispute as to whether the nail grows down into the flesh or the flesh grows up against the nail we may readily admit that there are three ways in which the cause may be removed. Something may be interposed between the flesh and nail; the nail may be removed from the flesh; the flesh may be removed from the nail. All palliative measures aim at accomplishing their end by one or more of these three methods. Astringents, caustics, cotton, sheet tin, silver hooks, scraping the nail thin and bending up its edges, or paring away the sunken edges are some of the measures of separating the nail and flesh. And one may state with safety that most mild cases can be so cured by these simple means that recurrence will not take place if proper shoes and stockings are worn. Even so humble a part of the body as the side of the great toe should not be wantonly sacrificed.

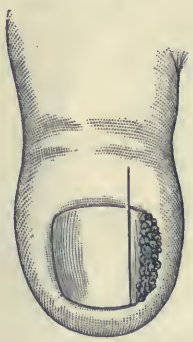
FIG. 1.

Longitudinal section of toe-nail (after Koelliker).

There are, however, aggravated cases in which the habits of the individual or the conditions of his toe make it probable that a cure cannot be obtained by these measures, or if thus obtained that it will not endure. Hence the need of radical operations. They can remove the cause in only two ways. They may permanently remove the edge of the nail; or they may permanently remove the flesh, but a single operation may, of course, do both of these things.

In comparing different methods of operation in order to choose the best it is necessary to remember two things: That every part of the nail grows straight out from the corresponding part of its root,

FIG. 2.



The incision.

and second, that the nail is formed wholly from the reflexion of the skin which lies under its posterior portion back of the curved white line and not at all from the superficial skin which overlies it. The particular portion of the stratum mucosum, the cells of which go to form the nail, is called the matrix (Fig. 1). An operation which fulfills all the requirements of a permanent cure, and with the least damage to the healthy parts, is performed as follows:

Scrub the toe with soap and hot water and disin-

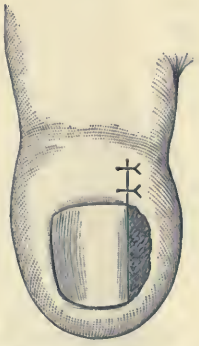
fect it. Tie a strip of gauze tightly around its base to control the circulation and inject 2-per-cent. cocain or eucain solution above and below the edge of the nail to be removed. Disinfect again. Make an incision through nail, skin, and matrix, beginning at the free end of the nail and running parallel to the ingrowing edge. It is not necessary that the strip of nail removed should be more than one eighth of an inch wide (Fig. 2). Reflect the skin-flaps which overlie the root of the nail (Fig. 3). Dissect

FIG. 3.

The flaps reflected.

out the portion of the matrix which is attached to the strip of nail, being especially careful to secure its extreme corner on the side of the toe. If granulations are abundant they may be lightly curetted away. Insert one or two fine black-silk sutures to hold the skin edges in place (Fig. 4). Apply a firm wet antiseptic dressing and a starch bandage. This

FIG. 4.



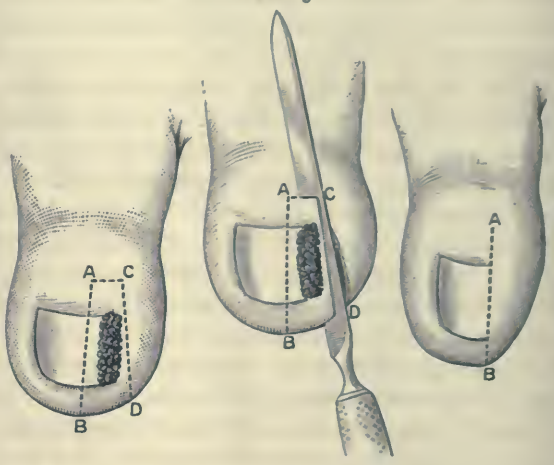
Ready for the dressing.

should be changed every day or two as there is often a minute drop of pus at the junction of the skin and nail. In nearly every case primary union of the skin may be obtained. The patient can wear his ordinary shoes in ten or twenty days.

Could anything be simpler? No tissue is sacrificed which it is not desirable to be rid of. The matrix is removed with certainty. It cannot be curetted or cauterized away without inflicting damage to surrounding tissues. It will not pull out with the nail. The sutures may be omitted and the flaps held in position by the bandage, but a stitch or two insures an exact approximation of the skin edge. The patient does not need to go to bed, but the less he walks for a day or two the better.

The edge of the nail with its matrix has been removed in other ways. One of the best known of these methods is that which was described by Anger before the Surgical Society in Paris, July 17, 1889. He removed a section of the toe from its extremity back to beyond the matrix. As the matrix of the nail in an adult is within one-quarter of an inch of the joint,[3] and in Anger's method the cut extends to the bone, the operation is a pretty serious one. Those who have performed it lately have been inclined to mitigate its severity by making the section V-shaped and extending it only a short distance on the bottom of the toe.[4] That this was not Anger's style will be seen from the drawings (Figs. 5 and 6) which are

FIG. 5.



Anger's Operation (Amiard).

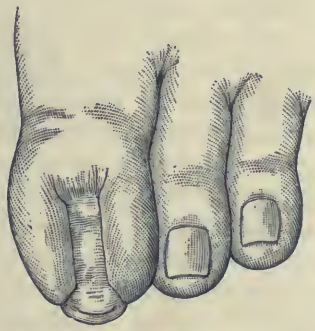
reproduced from a monograph[5] of the method published in the next year, 1890, by Amiard, a pupil of Anger. The illustration of a "cured" toe which he gives makes comment unnecessary.

A still more humane modification of Anger's operation consists in the removal of an elliptical wedge-shaped piece of nail matrix and skin. This operation was practised by Gosselin[6] some thirty years before Anger described the original operation of which it is technically a modification. It is not difficult, makes a small wound, and the amount of skin over the matrix, which it sacrifices, is of little moment perhaps. But it removes the whole gutter along the edge of the nail so that the toe is needlessly mutilated for all time to come, a point which may seem small to the surgeon, but it is one which is of considerable interest to the female patient as I have learned by experience. It was to avoid this defect that I hit upon the method above described,

which is, after all, nothing more than the plainest common sense applied to the plastic surgery of the toe. No one would ever think of removing, with an ingrowing wisdom tooth, the overlying portion of the cheek. Yet that is exactly what is done to the toe in all reported methods as far as I have looked up the literature of the subject.

The second way to keep the nail and flesh apart is to remove the flesh. This may be called, to invert an ancient phrase, taking the mountain away from Mohammed, a principle which, somehow or other, always has its advocates. Chief among them was Cotting. His method was simplicity itself. He sliced off the side of the toe. The nail, or a portion of it, was usually pulled out at the same time in order to give the ulcer an opportunity to heal undisturbed. As the raw surface thus caused is from half an inch to an inch in diameter from three to six weeks are required for its healing. The toe is, of course, permanently deformed, but as it is smooth and more pointed than before the deformity would probably be regarded with favor by most people. The time required for healing is a serious drawback and various surgeons [7] have tried skin-grafting with a considerable amount of success. The graft should not be placed on the fresh wound but applied to the raw surface after a lapse of three or four days.

Fig. 6.

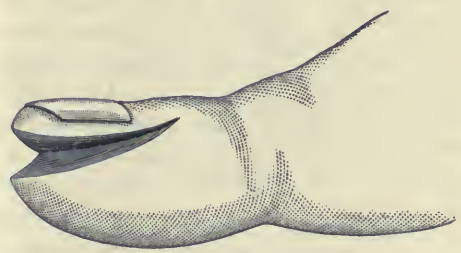


Eighteen months after Anger's operation (Amiard).

A far cleverer method of withdrawing the flesh from the nail was described by Howard [8] of Texas, in 1893 (Fig. 7). His plan was to remove a wedge-shaped piece of skin and subcutaneous fatty tissue right around the toe from one side to the other and to suture the edges of the wound. In this manner the gutters along the sides of the nail are rolled open and the pressure of the nail on the ulcerated skin is relieved. Cartledge,[9] in 1895, and Kane,[10] in 1896, described similar operations, limiting the excision of tissue to the side of the toe which is affected. Such a wound ought to heal quickly and with little discomfort. I have never seen the operation performed and cannot speak of the ultimate results.

All surgery carries with it an element of risk, and last month I was unpleasantly reminded that minor surgery is no exception to this rule. The simple operation described above I performed perhaps ten or twelve times last year. I think there was only one instance in which primary union was not obtained. Just before the holidays a young woman came to me for relief from a deep, stubby, ingrowing nail. She had repeatedly cauterized the granulating area with nitrate of silver, forming a slough, but the infection was apparently slight. With scrupulous aseptic precaution the flap was reflected and the edge of the nail and its matrix removed. The operation was painless, was quickly performed, and there was scarcely any loss of blood. A wet dressing was applied, and the patient, delighted with the lack of deformity, took a train for her home some 300 miles away, expecting to make a holiday of her convalescence. Six hours later intense pain began in the dorsum of the toe and the next day she cut the stitches though they were absolutely clean. The edges of the wound were pulled apart but no pus was found. As the pain continued a doctor was called and a deep incision was made from the middle of the base of the nail to the phalangeal joint, opening a minute abscess cavity. A violent cellulitis followed, there was necrosis of both phalanges, and finally amputation of the whole toe was performed at Johns Hopkins Hospital. The infection was due, I thought, to the hypodermic syringe, the only instrument which was not sterilized by heat; but the patient, who is also a surgical nurse, maintained the opinion that the abscess existed at the time of operation. She was, at the time, much run down in health, having badly overworked herself, so that her power of resistance must have been far below normal. This unfortunate result, while it in no way assists in the determination of the relative merits of different operative methods, shows that there is a certain risk in all attempts at radical cure, which must be remembered when the question to be

Fig. 7.



Howard's operation.

decided is whether palliative measures or an operation shall be resorted to.

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THE TREATMENT OF HEADACHE.

By JOSEPH COLLINS, M.D.,
OF NEW YORK;
PROFESSOR OF NERVOUS AND MENTAL DISEASES IN THE POST-GRADUATE MEDICAL SCHOOL; VISITING PHYSICIAN TO THE CITY HOSPITAL.

(Continued from page 168.)

THE headaches associated with the neuroses that we are now considering almost always occur in people whose digestive and assimilative functions are disordered and whose avenues of excretion are more or less sluggish. These derelictions of function demand attention, but it is unnecessary, I believe, to make specific enumeration of the substances employed to encompass such ends. What has been said for the treatment of neurasthenic headaches, applies also for those occurring as a manifestation of the hysterical state, but the treatment of headache which accompanies the other two grand neuroses enumerated in our classification, *viz.:* epilepsy and exophthalmic goiter, require very different drug administration, although the general dietetic, mechanical, and disciplinary measures are the same.

The most important fact in the treatment of epileptic headaches is that those which are the equivalents of an attack should receive the same careful, methodical, persistent bromid treatment as the convulsive form of epilepsy. The indications for medicinal treatment in the preconvulsive form of epileptic headache are the administration of diffusible stimulants, such as the nitrites, and if the cephalalgia precedes the convulsive attacks for any length of time the administration of a large dose of one of the bromid salts. Post-convulsive epileptic headache is best combatted by some such diffusible stimulant as coffee administered in the shape of a hot, black infusion.

The headaches of exophthalmic goiter, which, in reality, are not to be differentiated in their origin or in their manifestations from the headaches of neurasthenia, but which are always of a throbbing character, are best relieved by absolute bodily and mental rest, and by the administration of aconitia in $\frac{1}{200}$-grain doses, repeated every three or four hours if the vascular tension be high, or by the administration of digitalis or its alkaloid in full physiological doses if the pulse be of low tension.

The treatment of headaches accompanying organic disease may be dismissed after very brief consideration, for, as a rule, it may be said that the only form of treatment is operative in all varieties of organic headaches save those due to syphilis and non-pyogenic infection. The latter require treatment directed immediately against the causes.

The headaches of the intoxications and infections may likewise be briefly dismissed. Those accompanying the infectious diseases do not call for any particular treatment aside from the measures taken to combat the infectious processes, while the treatment of headache due to the ingestion of vegetable or mineral poisons resolves itself into the very simple matter of preventing the further imbibition of the poison, be it tea, alcohol, tobacco, or poisonous substances administered therapeutically or encountered in occupations, and the elimination of any of the poison remaining in the system from the body. After that, the headache disappears on the restoration of general, including neural, nutrition. To bring about this restitution of nutrition, general tonic treatment, very similar to that described under neurasthenia, is required. And, meanwhile, the headache may be relieved temporarily by the administration of some of the prescriptions possessing analgesic properties already mentioned. A formulary that I often use as a general tonic and stimulant in headaches following the infections and exogenous intoxications is the following:

Opii pulv.	gr. ss
Zinci phosphid.	gr. ss.

M. Ft. Pill No. 20. Sig. One pill three times a day.

It is to me nothing less than remarkable the tonic effect which one gets from this small quantity of opium. All the infections and intoxications, without exception, produce a more or less profound condition of general anemia, and this anemia must be reckoned with in estimating the nature and determining the treatment of the headache. Early in the treatment of such headaches some such searching tonic as the following should be administered:

℞	Ferri et ammonii citratis . .	grs. xl
	Liq. potassii arsenitis . .	*m.* xl
	Syr. zingiberis	℥ ss
	Inf. calumbæ	ad. ℥ iv.

M. Sig. Two teaspoonfuls after meals.

I am especially apt to give this mixture to children who complain of headaches following the infectious diseases, while for adults the mistura ferri ammonii acetatis is substituted for the citrate salt.

In the treatment of headaches resulting from the

absorption into the system of some endogenous poison, such as that of diabetes, uremia, and the auto-intoxications and infections, the general measures to be adopted do not differ materially from those already spoken of. The headache is combated when the formation of the poison and its absorption into the system is interfered with. In this way diabetic headaches are treated by diet and by the utilization of remedies against the anemia and oligocythemia, while uremic headache is combated by measures that prevent the formation of urea, and by those that facilitate its excretion. In uremic headaches accompanying chronic interstitial nephritis of slow progression, I use the following prescription as a diluent and diuretic with good effect:

℞ Potassii citratis . . . . 3 ii
Tinct. hyoscyami . . . . 3 ii
Spt. etheris nitrosi . . . . 3 ii
Inf. scopariæ . . . . 3 vi.
M. Sig. Tablespoonful in water three times a day.

If it is necessary to increase vascular tension, infusion of digitalis may be added to this mixture.

Headaches arising from such intoxication as that of ammonemia require only local treatment of the cystitis and the institution of measures to combat the anemia.

Headaches arising from auto-intoxication, the original source of the disease being stomachic and intestinal catarrh, functional perversion of the glands supplying the digestive juices, or through the activity of non-pathogenic bacteria, taken in from outside, form an important class, and one that is happily rather amenable to treatment. It must suffice me in this connection to say that after the general measures for the regulation of the alimentary tract and its associated functional dependencies, such as the overcoming of constipation, the adoption of suitable diet in catarrhal conditions, the stimulation of the liver to the production of a suitable kind and amount of bile, the administration of substances that contribute to the restoration of the pancreas and spleen, the treatment consists in the administration of substances that correct the apparent troubles of digestion, and of substances that quell the headache. A favorite prescription of mine for headache associated with flatulency and pyrosis is the following:

℞ Sodii bicarb. } aa. . . 3 i
Bismuthi subgallate } aa. . . 3 i
Pulv. acaciæ } aa. . . 3 i
Liq. ammonii anisi . . . 3 ii
Aqua dest. . . . . ad. ℥ viii.
Sig. Two teaspoonfuls before meals, repeated in three hours if necessary.

In headaches associated with atonic dyspepsia, but without any considerable flatulency, I make use of the following pills, and especially in the headaches occurring in women:

℞ Ferri sulphatis } aa. . . grs. xv
Quiniæ sulphatis } aa. . . grs. xv
Sodii arsenitis . . . . gr. ss
Pulv. rhei } aa. . . . grs. x.
Pulv. zingiberis } aa. . . . grs. x.
M. Ft. Pill No. 12. Sig. One pill three times a day after meals.

The treatment of headaches due to disease of the circulatory system requires considerable discussion, not so much because of their frequency as because of the fact that if they are properly interpreted they yield readily to treatment. The headaches that accompany organic diseases of the heart, whether they be associated with excess or deficiency of propulsive power, naturally require treatment directed to that organ, as does any pulmonary condition which interferes with the return cerebral circulation. Headaches occurring with functional disturbances of the heart are oftentimes very amenable to therapeutic measures, not drugs. For instance, a heart that is working violently as the result of great physical effort or excitation of mind or body, may be so quieted by the application of a simple cold-water compress to the cardiac region that the accompanying frontal throbbing headache disappears promptly, and the efficaciousness of stimulating foot-baths and hot sitz baths in combating a headache of increased vascular tension within the skull is very well known. It is rarely necessary to administer the more powerful cardiovascular depressants in cases of this kind, the required equalizing of the circulation being obtained by hydric procedures and the administration of a few doses of the bromids. When headache is an accompaniment of a sluggish circulation, there being no deficiency in the amount of the blood and no alterations of its constitution, the diffusible stimulants, caffein and strychnin may be relied upon to bring about its prompt relief. Cannabis indica is a drug that I frequently use with good effect in this form of headache. The method of prescribing it is in the following pills:

℞ Ext. cannabis indicæ (English) gr. ⅓ to ss
Ext. gentianæ, q. s.
M. Ft. pil. No. 1.

Headaches that are dependent upon a general anemia are oftentimes extremely resistant to treatment, and although temporary improvement usually follows tonic and stimulating treatment, the anemia must be fought unswervingly for a long time to effect a complete cure, and to stay the recurrence of the headache. These headaches are usually accompanied by a very sluggish condition of the digestive tract, to combat which I have used with very

good results the following combination of tonics and laxatives in the shape of a dinner pill:

℞ Quiniæ sulph. } aa. . . . grs. xii
Ext. aloes aq. }
Pulv. capsici. } aa. . . . grs. vi
Pulv. ipecac. }
Glycerini . . . q. s.
M. Ft. pil. No. 12. Sig. One pill at midday.

Or, if associated with considerable vital depression I use the following pill instead, giving at the same time some absorbable form of iron:

℞ Ext. nucis vomicæ . . . gr. ss
Pil. rhei comp. . . . . gr. iii
Pulv. capsici . . . . gr. ¼.
M. Ft. pil. No. 1. Sig. One pill at midday.

Naturally it is very often necessary to give at the same time, for its immediate effect, some analgesic or a combination of these with a stimulant, such as caffein, and such a prescription as one given above, containing caffein, phenacetin, and salol, usually meets the requirements.

Headaches associated with organic diseases of the blood-vessels, such as arterial sclerosis, arterio-capillary fibrosis, as it is oftentimes called, requires very methodical treatment in addition to the maintenance of the best possible degree of nutrition. Fortunately the number of medicines which are serviceable is very small, being covered practically by iron, nitrite of soda, one of the iodid salts, and occasionally one of the cardiac nervines, such as strophanthus. For the acuter manifestations of such disease, such as violent throbbing in the head, buzzing in the ears, and a feeling as if the head were being dragged forcibly backward the bromids are of service, especially when exhibited in connection with the foot bath, sitz bath, or full bath, to which pine-needle extract has been added. When these measures do not suffice I have frequently seen brilliant results follow the administration of a capsule containing cocain, camphor, and powdered opium, the latter in very small quantity. The value of nitrite of sodium as an agent to dilate the arteries does not seem to me to be sufficiently recognized. It has the great advantage over the other nitrites that it maintains the dilatation of the vessels for about four hours, whereas the action of nitroglycerin and nitrite of amyl is entirely over in less than half an hour. The necessity of recognizing that widespread fatty degeneration is the natural sequence of vascular sclerosis is very apparent, particularly in directing the dietary and physical hygiene of such a patient. Any considerable amount of fatty degeneration is inimical to an active degree of oxidation and as this process is at the basis of tissue metamorphosis and food combustion one must be on the alert not to administer food in such quantities as to clog up the system with effete matters and therefore add another burden to the economy.

We must pass now to a brief review of the treatment of so-called reflex headaches. Although volumes have been written on the subject, it does not seem to me difficult to make judicious disposal of the subject in a few words. Lest it may be gathered that I underestimate the importance of disorder and disease of the sense organs in causing headache, I may say that it is my belief, based upon experience, that from one-third to one-half of all headaches are caused or influenced in their occurrence and maintenance by such conditions. This, however, does not prevent me from saying that the treatment summarized in a few words is, to remove the cause, either by operation or by the application of the indicated orthopedic appliances, such as glasses, and then treat the exhausted state of the nervous system which has been induced through the strain of imperfect organs doing the work for which normal physiological apparatuses were intended. Further than this, one or two facts should be kept in mind. The first is, if the headache dependent upon defective sense organs has existed for a long time, no amount of orthopedic appliances to that organ will vanquish the headache in a considerable proportion of the cases, and furthermore, many cases of headache due to defect in the sense organs require as well general treatment that the permanent cure may be fully encompassed. After having said this, it does not seem to me necessary to say in detail that patients who have astigmatism, hyperopia, insufficiency, etc., should be glassed. No more does it seem necessary to say that chronic turgescence of the nasal mucous membrane, or catarrh of the middle ear should be treated when found associated with a headache whose location and character seem to point to these abnormalities as its source. Such truisms go without saying. In latter years we have heard much of the lack of muscular balance of the eyes as a cause of headache, and a considerable literature has sprung up burdened with the nomenclature of esophoria, exophoria, and hyperphoria. These conditions a few men who claim special skill in overcoming them would have us believe are responsible for a large proportion of all headaches, as well as causative of such profound neuroses as migraine, epilepsy, and Huntington's chorea. But the consensus of opinion of those who have carefully studied the question and who, from their training and experience, as well as from their inherent mental qualities, are entitled to belief, is that such loss of muscular balance, whether due to improper implantation, innervation, or fatigue of certain eye muscles, has been enormously overestimated as a cause of

headache. It is difficult for one who has investigated this matter in an unbiased and critical state of mind to divorce himself from the thought that those who claim to cure so many scores of headaches by almost imperceptible tenotomies of the eye muscles do it for sordid and even less commendable motives.

Space precludes further consideration of the treatment of other reflex headaches, and even though it did not, some of them, such as uterine headache, might be disposed of in a word, *viz.*: put the pelvic organs in as nearly a normal state as possible, then forget the existence of the pelvic organs and center your attention on the individual.

I have previously spoken of a form of cephalalgia to which the name habitual headache is given, and a few words were devoted to a theory of its pathogenesis. It is diagnosticated by process of exclusion. Its treatment is oftentimes an altogether unsatisfactory experience. It is usually associated with evidences of general lowered vitality and disordered functions in other parts of the body. These, of course, must be vigorously combated. Such headache is often accompanied by leucorrhea, and under such circumstances I not infrequently employ the following prescription:

℞ Ammonii chloridi . . . . . gr. lxxii
Fluid ext. hydrastis (non-alcoholic) } aa. ℥ ss
Fluid ext. viburnum opulus }
Elixir simp. . . . . ad. ℥ iii.
M. Sig. Teaspoonful three times a day.

If the headache is accompanied by more or less ovarian pain, I sometimes substitute the bromid of ammonium for the chlorid salt. Taking it all in all, headaches of this nature are to be combated by maintaining the highest possible degree of nutrition, by the occasional employment of symptom medicines that are not opiates to relieve the pain, and by mental suggestion, particularly in those who tend to develop some degree of hypochondriasis.

After thus passing in review the important causes of headache and the necessity for the most searching examination of every system of the body in order to determine its pathologic relationship, it seems to me incumbent on him who writes of headache to say that despite the greatest diagnostic skill and the most herculean therapeutic efforts, the patient often remains in a frame of mind to say, paraphrasing Shakespeare:

> How weary, stale, flat, and unprofitable
> Seem to me all the physic of the world.

MEDICAL PROGRESS.

Hemorrhagic Ascites.—Finny (*Dublin Jour. Med. Sci.*, January, 1899) describes a case in which the effusion of serosanguinolent fluid in the peritoneal cavity necessitated repeated tapping. He was much puzzled by this condition, and for some time was of the opinion that the bleeding was due to the rupture of some vessel in the mesentery or omentum. Hepatic cirrhosis was considered and ruled out, on account of the absence of symptoms pointing to the liver. Before death occurred he inclined to the idea of malignant disease involving the peritoneum, and either the transverse mesocolon or the omentum. The post-mortem examination showed that this last diagnosis was the correct one. The tumor was extremely soft, full of large blood-vessels, and was considered to be of a sarcomatous nature. Neither Finny nor any one of the consultants who examined this patient had ever seen a case of hemorrhagic ascites, and by searching medical literature he was able to find only scanty mention of this symptom. An accurate diagnosis of peritoneal and omental cancer is extremely difficult. The presence of blood-stained ascitic fluid suggests it, but this may also be present in cancer of some of the abdominal organs, for example, the uterus. Cancer of the omentum may occur without ascites, or with ascites which is not bloody. The presence of tumors recognized either before or after tapping is a decided aid to diagnosis, but it may be that an accurate diagnosis cannot be arrived at until the abdomen is opened.

Bursæ of the Hip and Their Diseases.—Zuelzer (*Deut. Zeit. f. Chir.*, vol., 50, p. 148) presents an exhaustive study of the above-mentioned subject with brief histories of fifty-nine cases. In fourteen of these the bursa affected was the bursa iliaca or subiliaca, while in the remainder the bursa trochanterica profunda was the seat of disease. These two bursæ are thus seen to be by far the most important of the bursæ about the hip. Many others have been described by anatomists, of which the subcutaneous bursa over the great trochanter, or the bursa over the insertion of the gluteus medius in the great trochanter, or the bursa of the gluteus minimus in the corresponding situation may serve as examples. Heineke described in all fourteen bursæ about the hip, while a Swedish anatomist, Synnestvedt, found twenty-one with greater or less regularity. Normally these bursæ contain so little fluid that not a single drop can be squeezed out of them, yet they play an important part in the motions of a joint, and thus have not been sufficiently recognized in injuries and diseases of joints. The symptoms produced by inflammation of the subiliac bursa are those of a swelling below Poupart's ligament, which is more or less fluctuating and more or less tense, and may appear in one place, or in more than one, and if the latter the fluid may be pressed from one swelling into the others. The cavity of the bursa may also connect with that of the joint. If inflammation is acute the pain will, of course, be more marked, but by the pressure of the swelling on the crural nerve there may be produced sharp pain in the thigh down to the knee, even though acute inflammation is absent. The thigh is held in a position of abduction, outward rotation and light flexion. This is the typical position; occasionally the limb is abducted and rotated inward. If the position taken is exaggerated by the surgeon no pain is caused. Motion in the opposite direction, whether active

or passive, increases the pain. In narcosis all motions are possible. A coxitis in the early stage shows these same symptoms, but in this disease the flexion is more marked. It is important to remember that in bursitis the trochanter is exactly in Nelaton's line as the limb is not at all shortened. This fact will serve to differentiate bursitis from coxitis with subluxation, and from fracture of the neck of the femur. As bursitis usually follows injury and develops slowly, and as rheumatism, gonorrhea, etc. may also be factors, it frequently happens that the affected thigh measures less in its circumference than its fellow. In bursitis trochanterica profunda the swelling lies at the upper margin of the great trochanter to the outer side of the femur and can reach to the middle of the thigh. Here, too, the limb is held in a position of light flexion, abduction, and rotation, the position which best relieves the affected muscle. This affection can easily be mistaken for coxitis, especially if the bursitis is suppurative, since many cases of coxitis point in the same situation. Careful pressure directly upon the trochanter is not painful in bursitis, nor is pressure upon the anterior or posterior aspects of the hip-joint. In coxitis pressure in any one of these three situations gives pain. Blows upon the heel and walking are both painful in coxitis but not in bursitis. The differentiation in diagnosis between suppurative bursitis and osteitis is more difficult unless a sinus has exposed bare bone. Suppurative bursitis requires an early incision, curetting, and drainage. This should be done early to avoid an extension of the inflammation into the hip-joint. In non-suppurative bursitis, baths, compresses, iodin, massage, pressure, etc., may be employed or the contents may be aspirated and pressure then applied. If these milder measures do not succeed tincture of iodin may be injected into the bursa in order to obliterate its cavity, or better still, it may be laid open and a whole or a part of the sac may be removed. If a bursa communicates with the hip-joint the injection into it of the tincture of iodin will be a dangerous procedure. In radical operations asepsis is of prime importance, else a troublesome fistula may follow.

THERAPEUTIC NOTES.

Dressing for Ulcers of the Leg.—MARCUSE (*Therap. Monatshefte*, December, 1898) recommends the following lotion for particularly obstinate sloughing ulcers of the leg:

℞	Alumin. pulv.	ʒ ij
	Plumbi acet.	ʒ x
	Aq. dest.	℥ xij.

A piece of gauze several layers thick is to be wet with this solution and applied to the ulcer. Other compressors also wet with this solution and larger than the first are laid upon them, and the whole is covered by gutta-percha tissue, and held in place by a firm bandage. This solution has the desirable properties of keeping the wound dry and limiting its secretion for it is a powerful astringent. Furthermore, it is antiseptic, and lastly it has a soothing, cooling effect upon the inflamed leg. It is desirable that the patient lie in bed for a few weeks, though if the ulcers are not too large it is possible to cure them without enforced rest.

Plantar Hypersecretion Cured by the Use of Formalin.—GERDECK (*Therap. Monatshefte*, December, 1898) has had satisfactory results in the treatment of hypersecretion of the sole of the foot by the use of a ten-per-cent. solution of formalin applied morning, noon and night. The tender skin around and under the toes receives only two applications. Usually the third penciling is sufficient to stop all secretion, remove the odor, and leave the skin in a dry, toughened condition. Sometimes a fourth or fifth application may be needed to effect a cure. At the close of treatment four or five drops of concentrated solution of formalin are dropped into each boot. The secretion of sweat begins to show itself in two or three weeks, and by two or three months the treatment will have to be repeated, though in a milder form. Powders containing formalin are not as desirable as the solutions, but they are well adapted to dusting in the boots to take away the disagreeable odor.

The Comfort of a Patient a Factor in His Recovery.—VON LEYDEN (*Centralbl. f. inn. Med.*, December 10, 1898) looks upon the comfort of a patient as an important factor in his recovery. In a certain sense it is a cure of pain. The situation of a patient who has fever, dyspnea, paralysis, or peritonitis, or who is anemic from hemorrhage, etc., is most important. In addition the physician should pay careful attention to the amount and character of the patient's nourishment. The writer warns against the granting of the whims of the patient, and considers it to be the duty of the physician to rouse the energy of the patient rather than to make him effeminate.

Treatment of Granular Conjunctivitis by Salicylic Acid.—MOTY (*La Presse Med.*, December 24, 1898) has used with success in the treatment of the milder forms of granular conjunctivitis a solution of one part salicylic acid to ten parts of sixty-per-cent. alcohol. A bit of absorbent cotton on the end of a probe is wet with this fluid and squeezed a little so that no drops will fall from it. The eyelids are then inverted and held so by one hand, while the wet cotton is passed over the affected portions. Before and after the cauterization, the inner surfaces of the lids are wiped with cotton wet in a mild antiseptic solution. The pain is sharp at first but soon passes away so that patients do not object to the treatment. The cornea is not affected at all by the salicylic acid, and if ulcers are present there is no danger that they will become pigmented by it. The salicylic acid should at first be used every day, then every two days, twice a week, and finally once a week. No other treatment is needed to effect a cure, if there are no complications. The improvement is noticeable at once, even more so than is the case with many other remedies, and it increases as treatment is continued, so that in some months' time, a cure may be effected without interfering in the least with the occupation of the patient, even in long-standing cases with infiltration and vascularization of the cornea.

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KISSING THE BOOK.

NOTWITHSTANDING the evident danger of infection and communication of disease involved in the custom, it is still habitual for witnesses in most of our courts of justice to kiss a copy of the Scriptures when taking an oath. It is not required by law, but is left to each witness' own taste in the matter. We have been sincerely pleased to note that the police magistrates in New York have been discussing the question of definitely abolishing the custom in their courts. There is a certain amount of objection to the proposed reform on the part of those who think that an oath loses most of its sanctity in the eyes of a good many people, unless accompanied by some outward sign that connects it directly with the Holy Scriptures. We think, however, that the influence of this superstitious feeling is exaggerated, and that even the most ignorant can easily be made to realize that the obligations of an oath are not lessened by the absence of the Bible.

The custom is so disgusting, considering the promiscuous class of people who follow it, and the opportunities it affords for the spread of the most loathsome diseases, that it is hard to understand how it has endured down to our day. Bacteriologic examinations have demonstrated over and over again a most heterogeneous collection of microbes some of them virulently pathogenic on the covers and leaves of books used for this purpose.

The good woman who, thinking the kiss obligatory, came not long ago to one of the courts with her own copy of the Scriptures, was a most practical and wholesome individual. Let this serious factor in the spread of disease be no longer tolerated. It is a simple thing to do away with the custom; it depends, we believe, entirely on the presiding judicial authority of each court.

TYPHOID FEVER IN PHILADELPHIA.

THE reports of the respective Boards of Health of the cities of New York and Philadelphia for one week each during the month of January are before us In Greater New York, with an estimated population of over three and a half millions, fourteen cases and six deaths from typhoid fever are reported; in Philadelphia, with a population a little over a million, the total number of new cases of typhoid reported is 427 and there were 40 deaths from the disease. Could there be any more bitter reflection on municipal misgovernment than is afforded by such figures? Typhoid is an easily preventable disease. The great cities of the Old World have practically gotten rid of it. Cases of typhoid are extremely rare in Vienna, while in Berlin, as our foreign correspondent noted at the beginning of last year, the occurrence of a case of typhoid in the autopsy-room of the Charité, where nearly 2000 autopsies are performed every year, is such a rarity, that particular attention is called to it and special study made of it as of some curious, infrequent, pathologic condition. A great city of the New World in the midst of our boasted progressive American civilization permits its citizens to be carried off by typhoid year after year and does not wake from the disgraceful lethargy of its criminal negligence.

What a record is that given by our Philadelphia correspondent last week in the statistics of typhoid fever in that city for the last ten years! There has been an average of nearly 3000 cases of typhoid every year and over 500 deaths; and these ten years are almost the last ten years of this enlightened Nineteenth Century, and the last of the ten years is

the worst of them all. Philadelphians are to be congratulated on their long suffering. We hope they will reap a reward for it in another world since it is not the sort of virtue that is rewarded in this. Perhaps for this reason they are satisfied to be hastened out of it aforetime.

If the police department of Philadelphia were to allow 500 people a year to be killed in the streets of the city and some 2500 more to be laid up for months because of the attacks of footpads, would Philadelphians in thorough-going perfect Quaker spirit meekly submit to that too? Or if they dared to protest and their protest was answered by the declaration that the presence of factions in the city council, each one striving to get boodle for itself regardless of citizens' lives and safety, prevented agreement on any plan by which the police might be made more effective, would they shake their tolerant heads and murmur "ah! these city fathers, who can do anything with them?" and then go on about their business hoping they would not be among the next to be waylaid?

The present state of affairs is a blot upon civilization, a crying shame in the face of the world. No Philadelphian should presume to raise his voice in any question of general interest and importance, while the city in which he lives is under this awful cloud. There must be an unlimited supply of the material out of which slaves are made dwelling within the shadow of Independence Hall when this flagrant violation of the inalienable right to health and the pursuit of happiness is allowed to go on year after year and the mass of the people remain indifferent. *Quousque tandem?*

AUTOPSIES, THE ANTIVIVISECTIONIST, AND PAGAN REVERENCE FOR THE DEAD.

ONE of the serious objections, on the score of inhumanity we suppose, that was urged against the management of the General Hospital at Vienna by the zealous antivivisectionists at their recent meeting in Philadelphia, was that an autopsy is performed in the case of every patient that dies in the hospital. Like many statements made by the antivivisectionists this is not entirely true. Only those cases are subjected to autopsy that are expected to furnish some instructive pathologic feature. This condition obtains in the majority of the patients that die in the hospital but by no means all.

As the result of the opportunities afforded in the autopsy-room Vienna, since the days of the great Rokitansky, who either made personally or oversaw 100,000 autopsies it is said, has held the first place in Europe for the study of morbid anatomy and as a consequence also of clinical diagnosis. How many of these carpers at what they do not understand realize how much clearer obscure internal conditions have become as the result of all these autopsies? Each one adds but little, some bring not the slightest mite of addition to our knowledge of disease, but all together they have created the one branch of medical science which to-day rests on a secure scientific foundation—pathology,

The truly senseless phase of this discussion, so conspicuous at the recent Philadelphia meeting, reveals the true inwardness of the antivivisectionist movement and its fanatical opposition, for certain merely sentimental reasons, to scientific advance. Is it any wonder that the medical profession, though most of its members are deeply interested in the prevention of animal suffering and realize certain abuses in experimental work, is opposed to allowing such people any voice in its regulation of animal experimentation?

Unfortunately their claim of a certain inhumanity in the making of an autopsy finds a sympathetic echo in the minds of too many people in America. There is the widespread realization that it is only by the exact study of the nature of disease in the human tissues that any secure advance can come in medicine. Yet when there is a question of autopsy upon a dead friend or even acquaintance there is a feeling of objection that arises and leads, in many cases, to absolute refusal. An example of this has just occurred. A patient suffering from an extremely rare disease, acromegaly, a disease whose pathogeny is as yet very obscure, died recently in a Western town and the friends had the body cremated lest it should by any chance ever come into the doctors' hands.

As a rule patients themselves have not this feeling and are very willing that their bodies should serve, after death, as an object lesson by which other people may be saved suffering and spared to longer life. The feeling of opposition in the matter goes beyond the circle of friends, however, and organizes meth-

ods to keep even the poor who die in hospitals from furnishing at least that much return to medical science for their care and treatment.

This is a false sentiment not engendered by any Christian reverence for the dead. It is a relic of pagan times of what the French call *la culte des morts*, the pagan worship of the dead. The pre-Christian anatomists had to learn whatever of anatomy they could from animals. Dissection of human bodies was a mortal offense. In the midst of the present-day growth of a too sentimental socialism this feeling of supposed reverence for the dead is being allowed to acquire too prominent a place. It should have no weight at all beside that other precious feeling that whatever promises to lessen the sum of human suffering is of the essence of right and goodness and should have no obstacles put in its path. Physicians have many an opportunity to inculcate this lesson in the matter of opposition to autopsies and we fear they do not always improve them with the zeal that their devotion to the cause of scientific medicine should dictate. Our country will not take her place among the nations of the earth as a great contributor to medical science unless ample opportunities are afforded on all sides for the detailed study of disease and its processes.

CEREBRAL INJECTIONS OF ANTITETANIC SERUM.

The good results obtained in the treatment of diphtheria by means of serum-therapy has encouraged similar and persistent attempts in the treatment of nearly all the infectious diseases. Tetanus, one of the most fatal of the entire group, has not been omitted in these investigations. Not content with the comparative failure which attended subcutaneous injections, the antitoxin was tried intravenously, but still the results were by no means promising. The researches of Roux and Borrel, at the Pasteur Institute, Paris, led them to these conclusions: "The tetanus antitoxin, when injected into animals, remains in the blood, whereas the toxin (previously absorbed) is extracted from it and 'fixed' by the nerve-cells. The antidote does not come in contact with the poison, and the two substances, though so near each other, fail to meet. The serum is efficacious against the toxin which is placed under the skin because the greater part of it enters the blood, but it proves powerless against the poison that has already reached the nervous elements." (Dr. Rambaud, in the *New York Medical Journal*, December 17, 1898.) We now readily understand the whole difficulty. The subcutaneous and intravenous injections were productive of so little good merely because they did not reach the seat of trouble save in the minutest amount. As a rule, subcutaneous injections have not been resorted to in cases of tetanus until the disease has been well advanced, that is to say, until a great part of the toxin manufactured by the tetanus bacilli has been "fixed" in the nerve-cells. In order to reach these nerve units, the toxin must travel the route of the circulation, so that when any good has been accomplished by the subcutaneous and intravenous injections, it has been through the neutralizing effect upon these toxins within the circulation, but little if any effect being produced upon the toxins "resting" in and exerting their deleterious action upon the nerve-cells.

If this theory be true, the only hope of success with subcutaneous or intravenous injections lies in their early application, thus keeping the blood in a diluted antitoxic state until all danger of absorption of toxins from the original site of infection is past. If, however, the opportunity for thus combatting the toxin while in the blood-current be neglected, the only hope of reaching it efficiently must be through some method that brings the antitoxin face to face with the toxin in the cells of the cerebrum. Suiting the action to this logical conclusion, the bold experiment was undertaken of injecting tetanus antitoxin directly into the brain substance and with gratifying results. Rambaud has collected reports of twelve cases in which the intracerebral method of injecting tetanus antitoxin was followed, and the results recorded have been far better than those of any other plan of treatment thus far produced—five recoveries. Of these twelve cases, three of the patients were treated in this country, with a mortality of two, but the histories given of the latter demonstrate that neither was a fair example on which to rest the value of the treatment, as one was dying at the time of the injection, while the other, though apparently recovering from the tetanus, succumbed to renal disease, a concomitant of a general septic condition into which the patient had fallen. In the patient who recovered, reported by

Church, the tetanus developed twelve days after the primary injury, a large lacerated wound of the leg produced by glass broken during a severe fall. Six days after the onset, that is to say, when the poison had become fixed in the nerve-cells, antitetanic serum was used subcutaneously, but with little benefit. Improvement being but temporary, it was decided the next day to make an injection of the serum into the frontal lobe of the brain. After trephining the skull, which was done under antiseptic precautions, sixty minims of the serum was slowly deposited to a depth of more than two inches, the entire injection taking longer than ten minutes. The subsequent history was comparatively uneventful, the patient making a good recovery.

If we accept the observations of Roux and Borrel, the neutralizing of the poison stored in the brain-tissue by injection of an antitoxin into this tissue is also to be accepted. Indeed, the good results obtained by means of this method after subcutaneous and intravenous injections have failed, would go far to show that these observers are correct. It would seem, also, that the right thing to do in all cases of tetanus, regardless of their mildness or the reverse—all cases of acute tetanus must be considered grave at any stage—to proceed at once to the intracerebral injection, at the same time not neglecting to neutralize the poison in the blood by subcutaneous or intravenous treatment or both.

ECHOES AND NEWS.

Professor Osler Will Deliver the Cavendish Lecture.—Professor William Osler of Johns Hopkins University has accepted an invitation to deliver the Cavendish lecture for 1899 before the West London Medico-Chirurgical Society.

Hospitals' Bills Rejected.—The Auditor of the War Department at Washington has refused to allow the payment of bills from hospitals for the care of sick and wounded soldiers who were detained under treatment after the muster-out of their regiments.

Dr. Woods Hutchinson Lectures in London.—Dr. Woods Hutchinson, Professor of Comparative Pathology in the University of Buffalo, who is at present studying in London, has accepted an invitation to deliver a series of lectures before the Medical Graduates' College and Polyclinic, London.

Fatal Influenza.—On February 12th a cablegram announced that there are 2342 cases of influenza in Christiania, Sweden, and that there were in the week ending February 12th, 198 deaths from this disease. In Stockholm there were 3194 cases of influenza and 229 deaths during the week ending February 12th.

Oppose Ten-Hour Bill for Drug-Clerks.—At a meeting of the Manhattan Pharmaceutical Association, held in the New York City College of Pharmacy, on February 4th, a resolution was adopted which protests against the passage of the bill introduced in the Legislature by Senator Ford and Assemblyman Maher prescribing a ten-hour working day for drug-clerks.

Hospital-Ship for the Philippines.—The Hospital-ship "Relief" left Washington on the 15th inst., and will proceed to Manila *via* the Suez Canal; she has on board 150 additional hospital-corps men, ten to fifteen acting assistant-surgeons, a number of hospital stewards, and a large quantity of medical supplies for the sick and wounded. The "Relief" will, after reaching Manila, become a floating hospital, for which purpose she is provided with 300 beds.

The Government Hospital for the Insane.—Dr. Godding, Superintendent of the Government Hospital for the Insane at Washington, D. C., makes an urgent appeal for additional accommodations for patients. Since the beginning of the war with Spain 107 insane men from the Army and Navy have been received into the hospital. They include survivors of San Juan and Manila. It is not improbable that 100 more such cases will come in during the next fiscal year. There are now 1927 patients in the institution.

Special Course of Lectures at the Michigan University.—The special annual course of lectures before the Medical Department of the University of Michigan will begin February 25th. Dr. Dock will deliver the first three lectures on "Malarial Fever"; Dr. Cushney will follow with four lectures on the "Mammalian Heart", and Dr. Nancrede will continue the course by four lectures on "Military Surgery," illustrated by his recent experience in the Spanish-American War. The series will be closed by four lectures on "Yellow Fever," by Dr. Novy.

Smallpox Eradicated from Holguin, Cuba.—Captain Woodsoon, surgeon in the Regular Army, reports that the smallpox epidemic in Holguin District has been totally exterminated. The disease had prevailed there for twelve years under the Spanish administration, but was vanquished in three months by the scientific methods of the Army. More than 10,000 persons were vaccinated, and 1200 patients with smallpox were cured. Not a single American soldier contracted the disease, although they did guard-duty at the lazarettos. The sanitary condition of the district is now almost perfect.

Yellow Fever in Cuba.—Dr. R. Echeverria, brigade-surgeon, who was appointed by Governor-General Brooke to investigate the outbreak of disease in the camp of the 202d New York Regiment at Pinar del Rio, reports that the sickness is yellow fever. Dr. Echeverria advises the immediate removal of the camp from its present location. Dr. Doty, the Health Officer of New York, who has re-

cently returned from an inspection tour at Havana, reports most satisfactory progress in cleaning the streets of Havana, and in consequence improvement in the health of the city. He deprecates, however, the great influx of families connected with the Army, and predicts serious consequences provided they remain beyond the limits of the healthy season.

"Passed Away" in Christian Science.—The *New York Times* of February 10th states that Henry Reynolds, sixty years old, living near Tarrytown, New York, died on February 9th from an attack of acute rheumatism. He refused to have a physician called and was frequently visited by a Christian Scientist from New York, who stated there was nothing the matter with him and that his severe pains were imaginary. Shortly after the Christian Scientist's last visit the sick man said he could not see and died within a few hours while sitting in his chair. On February 12th an inquest was held; the verdict was as follows: "Henry Reynolds came to his death from heart failure and a rupture of a hepatic abscess into the abdominal cavity, and we censure John L. Roberts, the Christian Scientist, residing at the Omaha Flats at Sixty-fifth street and Columbus avenue, New York, for neglect to advise the family of the deceased to call a practising physician." Reynolds was worth $200,000.

Program of the Next Meeting of the American Medical Association Already Being Outlined.—At the June meeting of the American Medical Association, in addition to the regular programs, the Section on Ophthalmology and that on Laryngology and Otology will devote the morning of the second day, June 7th, to a joint meeting, under the chairmanship of Dr. Casey A. Wood of Chicago, and of Dr. Emil Mayer of New York. The subject for discussion will be "The Relation of Ocular Diseases to Affections of the Nose and Neighboring Cavities." Four papers are to be read on this subject, *by invitation*, as follows: Dr. Charles Stedman Bull of New York, on "Some Points in the Symptomatology, Pathology, and Treatment of the Sinuses Adjacent and Accessory to the Orbit," Dr. D. Bryson Delavan of New York, on "Nasal Stenoses in Their Relation to Ocular Disturbances," Dr. Joseph A. White of Richmond, Va., on "Eye Troubles Attributable to Nasopharyngeal and Aural Disturbances," and Dr. J. H. Bryan of Washington, D. C., on "Diseases of the Accessory Sinuses in Their Relation to Diseases of the Eye." There will be a general discussion on the main question.

The Massachusetts Hospital for Tubercular Patients.—A supplemental report, dated December 31, 1898, regarding the above institution has been published, showing the admission of eighty-six patients since October 3d, which was the date of reception of the first patient. The hospital is located at Rutland, about twelve miles from Worcester, and is about twelve hundred feet above sea-level. The town wherein it is situated happens to be at the exact geographical center of the State. The hospital is built on the pavilion plan and will accommodate about two hundred beds when fully organized. It is not intended for the incurable. Its physicians say: "It has been a source of gratification and surprise to see how quickly and contentedly the patients have adopted the special hygienic methods used for treatment, namely, almost constant life in the open air, whether by walking or reclining on the piazza, and the ingestion of nourishing food. The remarkable change in the aspect of these patients after even a short stay at the hospital would convince the most casual observer of the efficacy of the treatment upon the general condition of the patient."

Massachusetts has been the first to establish a State institution founded upon the principles of the now great sanitaria in Europe.

Obituary.—Dr. William C. Campbell of New York City died February 5th from pneumonia after an illness of one week. Dr. Campbell was born in Corea, N. Y., August 29, 1854. He was graduated from Princeton University in the class of 1877, and from the College of Physicians and Surgeons in 1880. At the time of his death he was attending physician to St. Luke's Hospital and the New York Orphan Asylum. He leaves a widow and two children. Dr. Campbell was a member of the University and Princeton Clubs, and the Academy of Medicine.—Dr. George H. Rohé of Baltimore died suddenly, February 9th, in New Orleans, whither it is said he had gone to attend a medical society meeting. He was the Superintendent of the Maryland State Insane Asylum, and had been prominent as an alienist and sanitarian.—Dr. James H. Etheridge of Chicago died suddenly in that city from heart disease February 10th. He was Professor of Therapeutics and Medical Jurisprudence in Rush Medical College, ex-president of the Chicago Medical Society, and a member of the American Gynecological Society.—Dr. Henry E. Keyes of New York died suddenly at Ardsley-on-the-Hudson February 6th. After a social function at Ardsley Dr. Keyes and his wife retired to one of the guest-rooms of the Ardsley Casino. At ten o'clock the following morning both were found asphyxiated by gas which had escaped from a gas-stove, unquestionably by accident. Dr. Keyes was a brother of the well-known specialist, Dr. Edward L. Keyes of New York.

Report of the War Commission.—In the report submitted to the President on February 8th by the commission appointed by him to investigate the conduct of the War Department in the war with Spain, it is stated that at the outbreak of the war the Medical Department was altogether unprepared both in men and materials to meet the necessities of the army called out; there was not such investigation of the sanitary conditions of the army as is the first duty imposed upon the department by the regulations; that the nursing force during the months of May, June, and July was neither ample nor efficient, reasons for which may be found in the lack of a proper Volunteer Hospital Corps, due to the failure of Congress to authorize its establishment, and to the non-recognition, in the beginning, of the value of women nurses and the extent to which their services could be secured; the Medical Department was seriously crippled in its efforts to furnish all medical hospital supplies, because of its ina-

bility to have supplies transferred from point to point except through the intermediation of the Quartermaster's Department; that a vast deal of good work was done by medical officers, high and low, regular and volunteer, and there were unusually few deaths among the wounded and the sick. The report recommends: (1) A larger force of commissioned medical officers. (2) Authority to establish in time of war a proper volunteer hospital corps. (3) A reserve corps of selected trained women nurses ready to serve when necessity shall arise, but under ordinary circumstances owing no duty to the War Department except to report residence at specified intervals. (4) A year's supply for an army of at least four times the actual strength of all such medicines, hospital furniture, and stores as are not materially damaged by keeping to be held constantly on hand in the medical supply depots. (5) The change of transportation to such extent as will secure prompt shipment and ready delivery of all medical supplies. (6) The simplification of administrative "paper work" so that medical officers may be able to more thoroughly discharge their sanitary and strictly medical duties. (7) The securing of such legislation as will authorize all surgeons in medical charge of troops, hospitals, transports, trains, and independent commands to draw from the Subsistence Department funds for the purchase of such articles as may be necessary to the proper treatment of soldiers too sick to use the army ration; this to take the place of all commutation of rations of the sick now authorized.

CORRESPONDENCE.

IS THE DAY OF THE DIDACTIC LECTURE A THING OF THE PAST?

To the Editor of the MEDICAL NEWS.

DEAR SIR:—If there is one feature characteristic of so-called movements of reform it is the fact that they go from the extreme which is to be remedied to another extreme which is equally in the nature of an abuse, and the very great improvement which has occurred in laboratory and bedside teaching in the great medical schools during the past few years has put it into the minds of some persons to assert that the didactic lecture should be excluded from the medical curriculum on the ground that it is a relic of what might be called barbarous times in medical teaching.

Recently, with its characteristic ardor, the *Philadelphia Medical Journal* has attacked the subject of the didactic lecture in a way which seems to me is not entirely justified by the facts in the case, and I am glad to note that in a still more recent issue of this journal, Dr. Barton Cooke Hirst, Professor of Obstetrics in the University of Pennsylvania, takes issue with the editorial in question and shows very clearly that the didactic lecture, if properly given, is of very extraordinary value to the student of medicine. To use Dr. Hirst's words: "There is no greater force in medical education to-day than the didactic lecture properly given." And again the lecturer must be able to impart his knowledge to others, must be familiar with the current world literature and should use illustrations which are really illustrative and interesting. These attributes are as necessary to good teaching when given to small sections of a class as they are to didactic lectures given to large bodies of men, and to assert that didactic lectures are so valueless as to be useless, is also to assert that a vast number of didactic lectures dealing with other themes than medicine, are of no possible value. The popularity of lectures upon history, literature, art, and travel attests the fact that people enjoy and learn much by attending them, and in addition to imbibing statements of fact which fall from the tongue of the capable teacher, there is in the medical didactic lecture a possibility for the student to grasp the necessary details, in connection with the lecturer's theme, which are so essential and so valuable in practical medicine.

Few things can be more uninteresting than dry recitations concerning medical topics, and no means of teaching so well as the didactic lecture enables the student to benefit by the personal experiences of the teacher at whose feet he is studying. While it may be the fashion just at present to bring scientifically accurate laboratory methods to the diagnosis and study of disease those who are engaged in the active practice of medicine recognize thoroughly that there is something else equally valuable to the career of a successful physician, and that he must be possessed not only of technical skill but of medical instinct and understanding. There is no better stimulus to this understanding than to follow a course of lectures, such as were given in times gone by by such a man as Dr. D. Hayes Agnew, or at the present time by Dr. J. M. DaCosta, and no one who has heard these masters of medicine can for a moment doubt that it would be unwise to abolish the didactic lecture from the medical course.

Very truly yours,

H. A. HARE, M.D.

PHILADELPHIA, PA., January 25, 1899.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

BLIZZARD WEATHER—TWO UNUSUALLY LONG UMBILICAL CORDS WITH FIVE TURNS AROUND THE CHILDREN'S NECKS—EMBOLISM OF THE POSTERIOR TIBIAL ARTERY BY AN ATHEROMATOUS PLATE—LOCAL BOARDS OF HEALTH—OVERCROWDING OF THE STATE INSANE ASYLUM AT NORRISTOWN—PERSONAL NOTES — OBITUARY — HEALTH STATISTICS.

PHILADELPHIA, February 14, 1898.

THE miniature blizzard which struck Philadelphia last week has caused a vast amount of sickness and distress, particularly among the poor, and reports are coming in from every side of cases of frost-bite, pneumonia, and other maladies incident to such weather conditions as we have had for the past week. Sunday, by special order of the police, "all business incident to the necessities of life may be carried on without interruption," which meant the delivery of coal, groceries, etc., and wagons were to be observed all day Sunday engaged in this traffic. It is to be regretted that typhoid fever cannot be, or rather is

not, checked by cold, for with the thermometer hovering around zero we might look for one blessing to be derived from this storm.

At a meeting of the Philadelphia County Medical Society, held Wednesday evening, February 8th, Dr. J. Torrance Rugh reported "Two Cases of Unusual Length of Umbilical Cord with, in Each Case, Five Turns around the Child's Neck." Both cords measured between fifty and sixty inches, and this Dr. Rugh considered unusual. The longest umbilical cord mentioned in literature measured nearly ten feet. The turns around the neck were unusual, though a case with eight turns has been reported; while this latter complication is more common usually in male children, in these two cases one was a boy and the other a girl, both of whom survived.

Dr. Frederick A. Packard reported a case of "Embolism of the Posterior Tibial Artery by an Atheromatous Plate." The case was interesting because of the visible evidence of an unusual cause of embolism, and the specimen which was exhibited showed a calcareous plate firmly embedded in a white organized thrombus, which completely filled the blood-vessel. This occurred in a middle-aged woman upon whom a diagnosis of an embolus in the thoracic arch of an atheromatous aorta had been made. The plate had probably arisen there, and had been carried down to the posterior tibial artery. Sharp, stabbing, sudden pain was complained of, which became more and more intense. Forty-eight hours later the foot became cold and pulseless. A line of demarcation formed, and suppuration was evidenced by a differential blood-count. Dr. Joseph W. Hearn amputated the leg just below the tubercle of the tibia, but the woman died from exhaustion. Much to Dr. Hearn's and Dr. Packard's surprise the embolus was found just at the point where the artery had been divided. The aorta was found to be atheromatous, and the seat of a large number of calcareous plates. In the discussion which followed Dr. Hearn said that had he known the posterior tibial was involved, he would have amputated above the knee as a matter of course. He described the various kinds of gangrene, and said he wished to go on record as believing that one should not wait for a line of demarcation before operating, especially when sharp, sudden, stabbing pain is complained of, for he believes this to be an infallible sign.

Dr. S. S. Towler of Marionville has introduced a most excellent bill in the Legislature which provides that the school directors of each township shall be constituted a Board of Health, and shall secure the services of some reputable physician to work with them. To the board power must be given to punish all who violate the sanitary laws of the Commonwealth, and to inspect all premises, etc. As the school directors are usually men of the best education in each district, and generally regarded as "lights," this would seem an excellent plan, and a long-neglected want would be supplied.

Following close upon the complaints made that the Philadelphia Hospital is so wretchedly overcrowded, comes the report of Dr. D. D. Richardson of the Norristown State Hospital for the Insane, which shows that over 300 patients are compelled to sleep in the corridors for lack of accommodation. The damage which an epidemic would cause, should it break out in either institution, would be almost incalculable, but as with filtration and other city necessities our politicians seem to know little and care less for the responsibility attached to them. Instead of "the public be damned," it is a case of "the public may die—for all we care."

Dr. John V. Shoemaker, who has recently been appointed Surgeon-General of the State, was presented with a sword by the senior class of the Medico-Chirurgical College last week.

Dr. Edith A. Barker of the Delaware State Hospital has been elected Pathologist to the Norristown State Hospital for the Insane, and her former position has been filled by the election of Dr. Jean Wilson.

Dr. John H. W. Rhein has been appointed Neurologist to St. Agnes' Hospital.

At the annual meeting of the Philadelphia Academy of Surgery, held February 6th, the following officers were elected for the ensuing year: President, Dr. J. Ewing Mears; vice-presidents, Drs. W. W. Keen and John Ashhurst, Jr.; secretary, Dr. William J. Taylor; treasurer, Dr. William J. G. Porter.

Dr. Edward North of Hammonton was killed last Saturday while driving across the railroad tracks near his home. He was a graduate of Jefferson Medical College, a member of the Hammonton Board of Health, and of the Board of Education.

Dr. A. Clark Deakyne died February 5th of chronic Bright's disease. He was a graduate of the old Pennsylvania Medical College, which is no longer in existence.

The total number of deaths occurring in Philadelphia during the week ending February 11th, as reported at the Health Office, was 569, which is an increase of 57 over last week, and of 63 over the corresponding period of last year. Of this number 149 occurred among children under five years of age. The total number of new cases of contagious diseases was 444, reported as follows: Diphtheria, 70 cases, with 20 deaths; scarlet fever, 35 cases, with 2 deaths; typhoid fever, 339 cases, with 41 deaths.

MEDICAL MATTERS IN CHICAGO.

[From Our Special Correspondent.]

OSTEOPATHS—BILL AGAINST THE ISSUANCE OF UNLAWFUL DIPLOMAS—CONCERT FOR THE BENEFIT OF THE PRESBYTERIAN HOSPITAL—DONATION BY MRS. STICKNEY—EXAMINATIONS FOR INTERNES AT COOK COUNTY HOSPITAL—NEW SANATORIUM—CHICAGO LARYNGOLOGICAL AND CLIMATOLOGICAL SOCIETY—TREATMENT OF HEMORRHOIDS BY THE PLASTIC METHOD.

CHICAGO, February 12, 1899.

ACCORDING to the *Chicago Evening Post*, the osteopaths of Illinois are preparing a bill to be introduced in the General Assembly placing this school under the control of the State Board of Health, and providing that each applicant for a certificate to practise shall pass a satisfactory examination in anatomy, chemistry, gynecology,

obstetrics, pathology, bacteriology, and physiology. A section will be inserted in the bill providing that no osteopath shall administer any medicines, either externally or internally, and shall not perform surgical operations. It is believed the measure will meet the approval of the leading osteopaths of the State, and will then remove the objections which were set forth by Governor Tanner in his disapproval of the osteopath bill which was passed at the last session.

Dr. J. A. Eagan, secretary of the State Board of Health, is preparing a bill which provides that it shall be unlawful for any person or association to issue to any of its students or other persons any diplomas or other certificates of qualification in medicine, pharmacy or dentistry unless said person or association shall first obtain permission so to issue said certificate or diploma from the State Board of Health, the State Board of Pharmacy, or the State Board of Dentistry of the State. Violation of the law is punishable by a fine of from $100 to $1000. Another bill regulating the granting of charters to educational institutions provides that the Secretary of State shall not issue charters to persons or corporations for the purpose of conferring degrees, diplomas or other certificates of qualification in the science of medicine, pharmacy, or dentistry, unless the application therefor is approved by the State Board of Health, the State Board of Pharmacy, or the State Board of Dentistry, respectively. This bill also empowers the Secretary of State to revoke the charter of any institution of education upon the recommendation of either of these boards if the recommendation is accompanied by proof that the institution is conducting a fraudulent business. It is said, that these measures have the approval of Governor Tanner.

The fourth annual concert for the benefit of the Presbyterian Hospital was given Monday evening, January 23d. This hospital admits more than 2000 patients annually, requiring an annual expenditure of $100,000. In addition to beds endowed by benevolent persons, it has no less than 65 free beds, and it is said to do more charity work than any other hospital with the exception of the Cook County.

The Elizabeth Hammond Stickney Memorial Building, erected for the nurses of St. Luke's Hospital, was dedicated January 26th. Mrs. Stickney bequeathed $75,000 to the trustees of the hospital, of which $10,000 was to endow a room in the name of her husband, Edward Stickney, a like sum to endow a room in her own name, and the balance, $55,000, to be used in the erection of the Memorial Building for the Training School and for needed improvements in the hospital itself.

The medical profession of Chicago and of Cook County has been deeply stirred over the purpose of the President of the County Board of Commissioners to put examinations for internes at the County Hospital under the supervision of the Civil Service Board. The examinations heretofore have been conducted under the immediate supervision of the hospital staff of physicians and surgeons, who now take their stand conservatively on the ground that the past system has been most satisfactory and that a change which might put the work of examination into other and possibly less-competent hands is to be deprecated. The reasons for the change as advanced by President Irwin are that the hospital staff had been suspected of favoring the applicants from those colleges in which the staff physicians are interested. The one point which concerns the public in all this is, of course, the eminent necessity of maintaining the efficiency of the hospital forces unimpaired. Efficiency is the aim of the Civil Service Commission and the prime purpose of civil service law. If it be true that the hospital physicians have formed a sort of close corporation for the benefit of the particular colleges in which they are interested, the public has a right to know about it and to protest vigorously. But it is hardly likely that men of the rank and reputation of some members of the Cook County Hospital Staff are going to imperil the success of their own work and the strength of their own reputations by permitting the selection of incompetent internes.

One of the strongest arguments advanced for the continuance of the present system of examinations is that the staff of the Cook County Hospital gives its services to the people. To a very considerable extent the reputation of the individual physician is dependent upon the showing which he makes there. On the interne, more than on the attending physician, may depend the success of treatment. The examinations as now conducted are fair and impartial. There is no possibility for collusion. Of course politics is at the bottom of this and it has been the curse of the County Hospital during the last twelve or more years.

Architect R. T. Newberry of this city has prepared plans and specifications and has let excavation and foundation contracts for the Phelps Medical and Surgical Sanatorium to be erected at Battle Creek, Michigan. The building will be 200 by 200 feet and five stories high. It will be fireproof throughout and the outside walls will be built entirely of rough-filled boulders. The cost of the building, exclusive of furnishing, will be about $200,000.

The Chicago Laryngological and Climatological Society was recently organized with Dr. E. Fletcher Ingals as its president and Dr. Melville T. Hardie, secretary. A committee was appointed to draft a constitution and by-laws.

At a meeting of the Chicago Medical Society, held February 1st, Dr. Henry T. Byford presented a paper on "The Treatment of Hemorrhoids by the Plastic Method." He has discarded the ligature in the treatment of hemorrhoids and merely cuts them off and sews the raw surfaces together with silkworm gut as in any plastic operation. Three or four wounds are thus sutured, a part of them in a diagonal or transverse direction, in order that the lumen of the anus may not be contracted. The bowels may be moved at the end of forty-eight hours and the sutures removed in two weeks. The rectum is douched out with plain water after every bowel movement. The essential features of the operation are: (1) the abandonment of the ligature; (2) the employment of silkworm-gut sutures, left long and tied into bundles to facilitate removal and to guide the douche point; (3) the diagonal or transverse direction of the line of suture; (4) keeping the stools liquid and the rectum douched out.

OUR LONDON LETTER.

[From Our Special Correspondent.]

PROGRESS OF THE CRUSADE AGAINST CONSUMPTION —EXTRAORDINARY INSTANCE OF RENTING A MEDICAL DIPLOMA—A NEW PSYCHIATRIC DISEASE—STEWED RATS AS A REMEDY FOR BALDNESS.

LONDON, February 4, 1899.

THE crusade against consumption has evidently come to stay. The newspapers are full of accounts of the methods of German sanatoria, of the classification of tuberculosis as an infectious disease, and last but not least, of the remarkable scheme of our own Nikola Tesla. The movement among the laity is on the whole strictly rational and scientific and there is a most refreshing absence of any trumpeting of sure-cures or wondrous methods of treatment. Fresh air and sunlight are the only remedies recognized and the community in its delight at waking up to find consumption curable, seems ready to support loyally every reasonable measure for the extermination of the disease. Five more county and municipal councils have taken the question seriously in hand this week. One melancholy and distrustful layman breaks the general chorus of hope and congratulations with a bitter complaint against doctors for changing their minds so suddenly as to the seriousness and fatality of consumption, like the man who would not be deprived of the precious doctrine of infant damnation. In the next breath he denounces them for not finding out long ago that consumption could be cured by such simple remedies as air and sunshine.

The comments upon Tesla's extraordinary scheme have been most shrewdly sceptical, the *Westminster Gazette* heading its announcement "Bacilli Killed While You Wait," while the asinine statement of Benedikt of Vienna, who has allowed himself to be interviewed upon the subject, that he anticipates great things from the method "because this is absolutely certain: that Mr. Tesla has succeeded in destroying the bacilli with these currents in his own laboratory," is ridiculed as it deserves to be.

The case of "Dr. Nugent," to which I alluded in my last letter turns out to be even more extraordinary than was suspected. It will be remembered that he was indicted for causing the death of a parturient woman, through failure to recognize an inversion of the uterus. No sooner was his examination begun than it was discovered that the prisoner's name was not "Nugent" at all, although he possessed a diploma and registry number in that name, and further investigation revealed a most remarkable state of affairs. The man's real name was proved to be Julian Rowland, a surgeon's dispensary assistant, and when some ten years ago one of his chiefs named Nugent went abroad, he conceived the brilliant scheme of *renting* his diploma and registry number. On the strength of this useful document he had gone to another part of London and conducted an active practice for eight years, regularly paying the munificent sum of *eighty-seven cents* per week to the wife of the real Dr. Nugent. It seems incredible that this Pinafore-like performance could have gone on for eight years under the very nose of the General Medical Council and the Medical Defence Union but it did. It seems that the representatives of the latter body had found out that Dr. Nugent had left England for more than two years and had had his name removed from the register. Then for some reason a delay occurred and Rowland rose to the emergency, posted over to Ireland with his "hired" qualifications, got them registered there, and when the Medical Defence pounced on him, smilingly displayed his Irish registry number and assured them that he was a totally different Dr. Nugent from the man who had gone abroad. However, "its a long lane" and "Dr. Nugent" will now have abundance of time to "get up" his subjects for a genuine licentiate examination, as he has been awarded six-years' penal servitude—three years for manslaughter and three for perjury.

Another way of evading the Medical Practice Acts has also been revealed this week in connection with a malpractice suit. This was a "Medical Hall," which was opened by an enterprising chemist who made an arrangement with a qualified physician of the seedy stripe to "cover" his operations by signing his prescriptions and making the first visit to his patients. All went well in this particular establishment until the doctor got drunk and failed to recognize a senile pneumonia in an old woman whom his assistant went on treating for a cold until she rather suddenly died. This the family not unnaturally resented and insisted upon an inquest, when the whole precious arrangement came to light. As nothing particularly harmful had been done in the way of treatment no indictment was brought but the coroner severely denounced the "Hall" as a fraud upon the public and announced his intention of reporting it at once to the Medical Council for prosecution.

A curious result of recent "reform" legislation has just been reported. Last July a new Workmans' Compensation Act came into operation, practically compelling employers to fully compensate workmen or their relatives for any injury sustained in their employ. Its first result apparently has been to markedly increase the number of accidents and even of deaths in the occupations covered by it. As compared with the corresponding six months of 1897, there was an increase of twelve per cent. in the deaths and forty-three per cent. in non-fatal accidents. In factories alone the deaths increased from 250 to 350. No rational explanation of these alarming changes seems forthcoming, except that of increased carelessness born of certainty of compensation and pay for lost time, a carelessness which is, of course, most noticeable in slight accidents but which also may lead to serious ones.

Another new disease has just been discovered in the realm of psychiatry. It bears the ponderous name of *morbus eponymicus*, the "naming disease" or as its witty French discoverer calls it, "*syndrome de baptême*," the lunacy of baptism. Its principal symptom is an inveterate desire of naming something after oneself, a disease if possible, but if not, a symptom, a method, even an instrument. It is usually extremely chronic in its course but liable to acute exacerbations at intervals, usually in print.

A partial report has just been published of the work

upon which Professor Kanthack was engaged at the time of his much-lamented death. This was an investigation upon milk as a carrier of tuberculosis, by the ingenious method of inoculating guinea-pigs with doses of the milk itself. The alarming result was obtained that out of thirteen dairies tested the milk of nine caused tubercular developments in the pigs. The sediment obtained by centrifugalization was used for inoculation and the injection proved infective in a number of cases in which no bacilli could be discovered by previous microscopic examination. The reporters think that the test is sufficiently delicate to be of value as a substitute for the use of tuberculin, or at least to be a valuable precedent to this.

A sovereign remedy for baldness has just been made public by a Chinese sage, and that is stewed rats. He is so confident of the beneficial effects of this delicacy upon the glossiness of the pig-tail that he epigrammatically asserts that "a rat is to the human hair what a carrot is to a horse's coat." I fear that most of those who read this revelation will be likely to exclaim "Rats!" in tones of horror—or scepticism, according to their bent, but the proof of the pudding is in the eating, and until this attractive remedy has been thoroughly tried *a la* Brown-Sequards' fluid, cerebrine, *et al*, we have no right to condemn it on *a priori* grounds. Rats are eminently hairy animals and can live to a great age without becoming bald, so why should they not furnish an antialopecic serum or antitoxin of the alleged microbe of baldness?

Another victory has just been scored by the "biologists" in sewage disposal over the chemists. The sanitary authorities of Manchester, after several years' trial of elaborate chemical methods of treating the city sewage, have decided to change to the "soil" or "bacterial" system. No method of treatment has yet been found either so effective, so free from odors, and in the long run, so economical, although the initial cost of the land and its drainage is somewhat heavy. We are so often called upon to denounce and fight against bacteria that it ought to give us peculiar pleasure to recognize their invaluable services to mankind as well.

The building of the new London Polyclinic and Graduates' College is being rapidly fitted up, the resident medical superintendent has taken up his quarters in it, and the clinics and lectures will begin next week.

Medicine is steadily winning recognition as a science and a science of great public value and interest. Dr. Alan Macfadyen, the Director of the Jenner Institute of Preventive Medicine, has been appointed to give a series of lectures upon "Toxins and Antitoxins" in the public winter course at the Royal Institute, in company with such men as Sir Robert Ball, Ray Lankester, and Lord Kelvin.

A curious cause of overpressure has just been brought to light by a public letter of Lord Rothschild. The Jewish children in London are not only keen and industrious pupils in the public schools but are also urged by their parents and rabbi to attend their devotional schools or chedarim for the purpose of religious instruction as well. These are held in the early morning and at night, and as this service of both God and Mammon results in the poor children being in school from 7 *A.M.* to 9 *P.M.*, it is little wonder that complaints of overwork are being heard on all sides. Several prominent Jewish physicians have united in a protest against the senseless system which they declare is already causing physical deterioration in the children, and Baron Rothschild adds his influence to the protest.

It really looks as if London were about to secure an adequate and needed ideal system of water-supply at last. The bitter lesson of last summer and autumn's water-famine has been taken deeply to heart by the London County Council, or "L. C. C." as it is usually styled with American abbreviativeness and negotiations are on foot for the purchase of a whole river valley and water-slopes in the Welsh Mountains, where enormous and practically inexhaustible reservoirs can be constructed whose slopes can be absolutely controlled and protected from all possible pollution.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

CHOICE OF AN ANTISEPTIC IN CERVICAL DISCHARGE—MODE OF ACTION OF SALINE INJECTIONS IN INFECTIONS—LITTLE TUBERCULOSIS IN THE FRENCH ARMY—URETERO-PYELOSTOMY—ARTERIOSCLEROSIS TREATED BY THYROID EXTRACT—LYMPHATIC TUMORS OF THE SCROTUM CAUSED BY FILARIA—A POINT IN THE SUCCESSFUL CLOSURE OF A FECAL FISTULA—TUBERCULOSIS OF THE TESTICLE—ACUTE LEUCEMIA—AFFECTION OF THE SUPRARENALS NOT ADDISON'S DISEASE—SWEDISH GYMNASTICS IN CONGESTIVE HEADACHE AND INTELLECTUAL FATIGUE.

AT the Therapeutic Society, December 14th, BLONDEL spoke of the choice of an antiseptic to combat cervical discharges. After trying all of the usual substances he became convinced that it is the evacuation of the microbes which is all important, the nature of the fluid employed being of secondary importance. In practice he douches the uterus five minutes or so with a solution of bicarbonate of soda. Then he compresses the cervix between the valves of a speculum, so as to express the secretions of the cervical glands. After that the douche is continued. The evacuation of microbes being thus assured, the excessive uterine discharge is done away with for two or three weeks.

BARDET discussed the mode of action in large injections of saline solutions for relief of infection. All the toxins which develop in the body and affect other organs or tissues may be looked upon as soluble. They may either be diffusible, in which case they do not become attached to the tissues and are easily eliminated, or they may on the contrary adhere to the tissues and modify them more or less profoundly. The favorable action of large saline injections is in part due to the reestablishment of blood tension and in part to the dilution, mobilization, and elimination of the toxins which are non-adherent to the tissues. If the toxins are firmly adherent to the tissues the saline injections have little effect.

BOVET said that saline solution to produce any appre-

ciable elimination of the toxins in severe cases must be administered in large quantities, two quarts or more during twenty-four hours. By increasing the blood pressure and facilitating diuresis the saline injections reestablish the chloruria, and not until then do the general symptoms improve sufficiently to make good the hope of a speedy cure. These results are due to chlorid of sodium, which although not properly speaking a solvent of the toxins, is capable, nevertheless, of producing marked changes in the blood-serum.

KELSCH presented to the Academy of Medicine, December 27th, the results of his experiments with the dust of barracks. He found it difficult to produce tuberculosis in guinea-pigs by injecting the filth from spittoons into their peritoneal cavities. One-third of 122 animals thus treated died of acute infections, some were killed and examined, with a negative result, while the rest remained in perfect health. Of 91 animals inoculated with nasal mucus, only one succumbed to tuberculosis. This mucus came from a cuirassier in apparently perfect health. Either there were no tubercle bacilli in these materials or if present they were not of sufficient power to triumph over an animal belonging to a species peculiarly susceptible to the disease.

DELBET reported the case of a young woman who had suffered from pains in the left lumbar region since the age of eighteen years. Two pregnancies and one miscarriage in the third decade of her life increased her symptoms. When seen by the speaker in her thirty-third year there was a well-marked left hydronephrosis. The right kidney, as shown by catheterization, was normal in action. The left kidney was exposed and found to contain a quantity of odorless fluid, but no calculus. The upper portion of the ureter was the seat of a very tight constriction. It was followed downward by a tedious dissection, opened below the stricture, and proved to be pervious from this point to the bladder by the passage of a probe from above downward. By a ureteropyelostomy an outlet for urine one-third of an inch in diameter was provided. The patient recovered.

LANCEREAUX showed two patients at the meeting of January 3d. One was a young woman who had a generalized arteriosclerosis, and the other a man affected with chronic rheumatism, gout, and arteriosclerosis. These patients had received gradually increasing doses of iodothyrin, beginning with .5 grams (8 grains), and gradually increasing until 3 grams (45 grains), were taken each day. The condition of the woman had improved rapidly, and after four months of treatment her face had resumed its normal aspect, and the trunk, neck, and arms, had become supple so that she could again sew without trouble. The man meanwhile had lost his articular pains, and the osteophytes and the trophic disturbances of the nails had disappeared. There was also less arterial tension, micturition at night had become less frequent, and the urine contained less albumin than formerly. The peripheral arteries had to a certain extent recovered their natural suppleness.

At the Session of January 10th, FRANCK spoke of the dangers attending the administration of extracts of the thyroid gland under conditions in which the gland was normal, for instance, in simple obesity. One ought not to forget that this substance is extremely poisonous, and capable of producing coma, and even death by cardiac collapse. In view of these facts the sale of articles containing thyroid extracts ought to be permitted only upon the order of a physician.

At the Surgical Society, December 21st, LE DENTU spoke of cases of adenolymphocele and lymphadenoma of the groin which could be diagnosed only with difficulty from an omental hernia. He had recently removed lymph varices from the scrotum and had observed a profuse lymphorrhagia to follow. There were filaria in the blood of this patient, as well as in that of the patient who had the inguinal adenolymphocele.

TILLAUX and RECLUS mentioned cases of filariosis of the scrotum simulating hernia which they had treated by ablation of a part of the scrotum, following in so doing the custom in tropical countries. The results were excellent.

At the Session of December 28th, LEJARS showed a girl, aged fourteen years, upon whom many unsuccessful operations had been performed in order to close a fecal fistula of many years' duration. He had finally accomplished this at the second attempt by dissecting out the whole fistulous tract. He found that the artificial anus opened into a large pouch connected with the sigmoid flexure. The opening was closed, and a lateral anastomosis established, the cure being complete. The fecal fistula had been made two days after birth, the child having imperforate anus. Two years later the anus was successfully opened but the fistula persisted as stated.

MONOD related a failure to close permanently a fecal fistula. He attributed his nonsuccess to the incomplete dissection of the fistulous tract.

REYNIER reported a case of tuberculosis of the testis in which the vas deferens was followed up by a reflection of the peritoneum until it could be divided at a distance of only six centimeters (2.5 inches) from the prostate. Its tissue was here unaffected by the disease. Tuberculosis of the testicle has sometimes been unwisely regarded as benign and treated accordingly by imperfect operations. Even in the mildest case the disease may spread to the lungs and cause death. The presence of tuberculosis of the prostate, on the other hand, is no adequate reason for refusing to remove a tubercular testicle, since clinical results show the advantages of such removal and complete cure may take place even though the prostate is involved. From the palliative operations, such as curetting and epididymectomy, Lejars had seen little benefit. The former is readily followed by recurrence and the latter by abscess.

GILBERT and WEIL reported to the Biological Society, December 24th, three cases of acute leucemia, which developed in three months, five weeks, and two weeks respectively. The first of these patients had symptoms similar to those of chronic leucemia, but one of the other two was more like an infectious stomatitis, with spleen and glands enlarged, and the third simulated purpura. In acute leucemia there is an irregularly elevated tempera-

ture with intense anemia and hemorrhages. The onset and course of the disease may be stormy and rapid. In doubtful cases an examination of stained specimens of the blood should always be made. The changes noted by Fraenkel will almost always be found. The red cells have a tendency to assume in a short time the changes of pernicious anemia, and the polynuclear white cells are much reduced in number or altogether absent. The mononuclear white cells, especially the large ones, are increased. They may, indeed, be the only leucocytes which are found in the blood. The eosinophilic cells are not modified.

SERGENT and BERNARD reported that they had attended a man who died with all the signs of acute poisoning. At the autopsy no lesion was found to account for his death, except a complete caseation of both suprarenal capsules. The pathology of these bodies ought to be extended so as to include this and analogous cases which certainly cannot be classed with cases of Addison's disease, in which the chief symptom is melanoderma.

At the Medical Society of the Hospitals, January 6th, MERKLEN presented a man who for some weeks had experienced intolerable pains in the epigastric region in the form of crises which were brought about by the ingestion of the simplest food, or by walking, or even by standing in the erect position. After fourteen-months' treatment, during which time a great number of remedies were employed without the least effect, a laparotomy was performed. There were found many adhesions from the stomach to the anterior abdominal wall, as well as to the neighboring organs. These were all divided except one which extended from the cardiac end of the stomach to the liver. In the middle of the lesser curvature of the stomach there was an induration, which suggested an ulceration. The patient was relieved of his pains by this operation so far as they were caused by peristaltic motions, but they were still produced by walking and by the erect position. A second operation was, therefore, performed, and the ulceration was excised. The pains immediately disappeared and did not recur.

HAYEM said that it is not always safe to make a diagnosis of perigastritis from the continuance of pain as this symptom might be due to the ulcer alone. A more reliable sign seemed to him to be the immobility of the stomach. The normal stomach moves with changes in the amount of its contents, but in perigastritis with adhesions its motions are limited or altogether absent.

MATHIEU said that the diagnosis might be rendered still more difficult by the growth of a cancer in the site of the ulceration. He showed several fragments of cancer tissue which had been expelled with vomited material from a patient who presented all the signs of gastric carcinoma. The microscopic examination of these fragments showed that the tumor was an epithelioma made up of cylindrical cells.

At the Medical and Surgical Society of Bordeaux, December 23d, TISSIE spoke of the value of Swedish gymnastics in congestive headache and intellectual fatigue as experienced by himself while recently in Sweden on a Government errand. One of the characteristics of the Swedish massage, is the application of the treatment at the terminations of the nerves affected, *e.g.*, the supra-orbital or infra-orbital. Vibrations, either made with the hands or with a mechanical vibrator, are usually employed, and have a sedatory influence. They are accompanied by massage of the muscles which terminate in the vicinity of the nerve endings. The length of the treatment depends on the condition of the patient. Tissie made a distinction between those patients whose recuperative powers are good, and those who are neurasthenic and have inherited fatigue. In both classes of patients, the treatment produces repose but in the former class the repose is followed by a speedy reparation of the vital forces, which in the latter class takes place slowly. The massage is preceded and followed by movements, chiefly respiratory, which are designed to relieve cerebral congestion. He adapted this treatment in his own practice and was gratified by the good results which he obtained.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.—SECTION ON SURGERY.

Stated Meeting, Held Monday, January 9, 1899.

W. W. VAN ARSDALE, M.D., in the Chair.

GENERAL PERITONITIS TREATED BY ENTEROTOMY.

DR. H. LILIENTHAL: I have two patients here this evening who illustrate a method which I have been employing in the treatment of general peritonitis accompanied by great distention. The distention in general peritonitis is a symptom which causes very great discomfort on account of its mechanical effect upon respiration and the obstination to which it gives rise, and it is also attended by danger and may indirectly be the cause of death. For these reasons it is imperative that it should be relieved, and it seems to me that this is best done by opening the intestine by incision, in order to evacuate the gas and septic fluid. Puncture alone is not likely to be followed by success. A longitudinal incision should be made in the gut at a point furthest away from the mesentery, and the patient should then be turned a little on the side in order that gravity may assist in forcing out the gas and septic contents of the gut. The incision is then closed by sutures of fine silk and another coil of intestine pulled out of the wound and treated in the same way. This should be repeated until the gut is perfectly flaccid.

This boy is eight years of age and was admitted to the hospital July 23, 1898. Although he had been ill but four days he was profoundly septic, and in a semicomatose condition. The abdomen was greatly distended, was painful on pressure, particularly on the right side, and the pupils were dilated. There had been no movement of the bowels in two days in spite of the admistration of castor-oil and similar household remedies. The prognosis seemed very bad indeed. I first saw him at eight o'clock in the evening, and I operated upon him before midnight. A large quantity of foul-smelling serum was found in the abdominal cavity, and there were many

adhesions about the appendix. The latter, which appeared to be gangrenous, was removed, and the adhesions broken up. The boy's condition was so low that it was feared he would die upon the table, but it was thought best to prolong the operation in order to relieve the distention and thus give a better chance for recovery. Therefore, the three incisions were made in the bowel, a large quantity of gas and fluid escaped, and the incisions were closed with two or three silk sutures. A drain, such as is recommended by Dr. Morris, consisting of gauze surrounded by rubber tissue, was then carried down into the pelvis and allowed to protrude through the abdominal wound, which was held open by superficial gauze dressing. This drain was removed on the third day, and replaced by a filament of gauze. Secondary suture was performed two weeks after the operation. It is interesting to note that cultures taken from the appendix and from the fluid which escaped upon opening the abdomen were found to contain colon bacilli only.

I performed the same operation upon this man on May 5, 1898. His condition at that time was extremely bad although he had been sick but two days. His pulse was small and irregular, there was constant vomiting, and he presented the typical picture of acute sepsis. The abdomen was extremely tympanitic, palpation caused great pain, and there was edema of the abdominal wall at all points. Upon opening the abdomen a large quantity of seropurulent fluid escaped. A very large and gangrenous appendix was removed and the intestines were opened by four incisions. Recovery was uneventful. Cultures taken from the appendix showed the colon bacillus only, but those taken from the pelvic cavity showed, in addition, the micrococcus pyogenes albus.

DR. R. H. M. DAWBARN: I would like to ask Dr. Lilienthal whether, in his judgment, benefit would be derived from injecting into the bowel a saturated solution of Epsom salts, as suggested by Dr. McCosh, in cases of paralysis and distention of the bowel. I would also like to ask if any of the gentlemen present have had any experience with the subcutaneous injection of Epsom salts as a means of causing a movement of the bowels.

DR. R. T. MORRIS: I have practised incision of the bowel but so far have made but a single opening. I think, however, that recovery would have been more rapid in some of my cases had I made several incisions. The gas does not always escape as freely as one would expect when the gut is incised, and I have gone so far as to stitch the ileum to the abdominal wall, thereby risking the danger of a bad angle later on in order that the gas might escape during the day and night following the incision of the intestine with the expectation of closing the fistula later which, however, was not necessary as it closed spontaneously. Of late years I have been making my abdominal incision smaller and smaller, and now rarely make one longer than three inches. I do not leave the wound open, but close it carefully, layer by layer.

I would like to hear more about injecting Epsom salts. I have always considered that the reason for administering this drug is because of its hydroscopic nature, which causes a rapid exosmosis of serum and toxin-bearing fluids from the infiltrated tissues into the bowel from whence they are discharged. If this is not the whole *rationale* of it, I would like to know it.

I would like to mention a little procedure which Dr. Lilienthal may find of service in these cases, and that is stretching of the sphincter ani. Patients with general peritonitis have great difficulty in emptying the bowel even after a large injection. This will be more easily accomplished after dilatation of the sphincter muscle.

DR. JOHN A. WYETH: The treatment by incision into a bowel which is paralyzed as a result of septic peritonitis is so logical that it is strange that it is not more generally employed. It has occasionally been practised by individuals in this city during the last ten years but has never become popular. Paralysis of the bowel, it seems to me, is due to two causes; one external, and the other internal, both of which are the result of the peritonitis. The first is the plastic lymph which is rapidly deposited upon the external wall of the intestines; the other is the hyperdistention within the bowel due to an accumulation of gas or fluid. The latter is relieved by multiple incision of the gut. My experience has taught me that a single incision does very little good.

DR. FREDERICK LANGE: This subject is of so much importance that I do not think we should arrive at conclusions too hastily. In the first place, no proof has been submitted to show that the two patients presented this evening really had general peritonitis, or that they were septic. Nothing has been said about the pulse and temperature, and there is nothing in the history of the cases which would lead one to consider them cases of general peritonitis. I inferred from Dr. Lilienthal's remarks that he would have us believe that a collapsed gut will absorb less than a distended gut. Theoretically, I do not think this is the case. The subject is interesting, however, and opens up a new field for experimental investigation. My experience in the treatment of general peritonitis has been very discouraging. I have had patients suffering from extensive pelvic suppuration whom I have treated by operation and a limited number have recovered. I am not prepared to say that the peritonitis was general, that it extended to the diaphragm and on the upper surface of the liver. A septic peritonitis which is confined to a limited area will sometimes give rise to the most severe symptoms, and may even cause death. Much, too, depends upon the nature of the infecting poison. Personally, I have not had good results from incision of the bowel for the relief of distention in general peritonitis.

DR. CARL BECK: My views are similar to those of the last speaker. I think that all cases in which recovery is said to have followed general peritonitis were really cases of circumscribed peritonitis. In regard to the operation under discussion I might say that I am in favor of a single incision.

DR. A. E. GALLANT: I think the term intestinal paresis is a misnomer when applied to these cases. I once saw a post-operative case in which there was so much distention that the woman's waist, which originally measured twenty inches, measured forty-eight; the abdominal wall was so thin that it was possible to see the

peristaltic action of the bowels, therefore, it is wrong to call such a condition a paralysis of the intestine. The distention in this case was relieved by simply rubbing the abdomen in the manner described by me some five years ago.

DR. DAWBARN: Dr. Morris has spoken of the prevailing tendency to make the abdominal incision smaller than was formerly done. In this connection I cannot deprecate too strongly the custom of making a large incision in cases of general peritonitis for the purpose of turning the intestines out of the abdomen and irrigating the cavity. It is impossible to remove every bit of pus from the abdominal cavity by irrigation. To prove this to my own satisfaction I poured a gobletful of milk into the pelvic cavity of a cadaver, then irrigated the cavity until the water returned perfectly clear, and sponged it out dry, yet, when the abdomen was opened several drams of milk were found among the folds of the mesentery. On another occasion I repeated the experiment, using pus instead of milk.

DR. W. W. VAN ARSDALE: I have devoted considerable thought to this subject and I think there are some points connected with it which have not been mentioned. Further studies should be made in regard to absorption in the abdominal cavity. There seems to be no doubt that the absorption which causes most danger to life is that which goes on in the center of the diaphragm and above the liver. If the peritonitis reaches this point there is no way of saving life. If other portions of the abdominal contents are the seat of the inflammation a cure can be effected. If the peritonitis is of the fibrinous kind there is more hope for the patient. If the intestines are distended by general paresis there is less space in the abdomen and, consequently, more pressure; moreover, fluids run up under the diaphragm and spread infection. If we reduce this distention by opening the intestine the result will be more space, less pressure, and less absorption. By keeping the wound in the intestine open continuous drainage may be secured which changes the current of lymph and has a beneficial effect. I have lately been pursuing this method.

In regard to the objection raised against incision of the intestine, to the effect that it is difficult to thoroughly empty the bowel even after incision is made, this will be facilitated by saline irrigation of the bowel at the time of the operation. The procedure is undoubtedly of value and should be more generally employed. A systematic application of the principles involved will throw additional light upon the subject.

DR. LILIENTHAL, in closing: In regard to Dr. Dawbarn's remarks concerning irrigation of the abdominal cavity I agree with him that it is not possible to thoroughly cleanse it and I do not think it should be attempted.

Stretching of the sphincter ani was referred to by Dr. Morris. In my cases I have introduced a rectal tube which has been left in for hours at a time and which answers the purpose even better than stretching the anus.

As to whether the cases reported were or were not cases of general peritonitis, of course I do not know whether every square millimeter of the peritoneum was affected, nor do I care, but I do know that the patients were suffering from what is known as general peritonitis, so far as it is possible to make that diagnosis without an autopsy. I am sure that Dr. Lange would have made the same diagnosis had he seen the patients both before and at the time of operation.

I have never used Epsom salts in these cases. If the effect of this drug is merely hydroscopic, I would suggest that glycerin would act as well.

TWO UNUSUAL CASES OF ANEURISM.

DR. CARL BECK: This is a case of aortic aneurism. The patient is thirty-nine years of age, German by birth, and gives the following history: His father died suddenly at the age of sixty-five years; his mother also died suddenly at the age of sixty. He denies syphilis, and examination shows no evidences of the disease. There is no history of gout or chronic nephritis. He states that about five years ago, while lifting a heavy weight, he felt pain in the left side of the neck, and a small protuberance appeared there. He entered a hospital and was treated for torticollis, and eighteen months ago returned to the hospital to be treated for malarial fever. At this time the tumor was not larger than a good-sized apple. On September 21, 1898, when the patient was admitted to St. Mark's Hospital, the transverse diameter of the tumor was 7½ inches, and it was found that the sternum had almost entirely disappeared as a result of pressure, as shown in these skiagrams. In spite of the enormous size of the tumor at the present time there is but little pulsation to be felt. This is probably due to the fact that the aneurismal sac is filled with fibrinous clots. Resonance is very marked. It is also interesting to note that the radial pulse on the right side is a little stronger than that on the left. The patient's lungs are normal. Following the advice of the French physicians, we have been giving this man large doses of gelatin, which has a tendency to coagulate the blood, and it would seem that the tumor is becoming smaller and harder. The condition of the patient is remarkable; he goes about and attends to his business just as if he did not have an aortic aneurism, and his hoarseness, which was due to pressure paralysis, has almost entirely disappeared.

I regret that I am unable to show you the patient from whom I removed this specimen, but he is confined to his bed by an attack of pneumonia which is probaly due to embolism. Four weeks ago I removed this femoral aneurism from a man sixty-nine years of age. It is of the fibrinous class and shows very clearly the circulatory canals. The patient states that three years ago he received a slight injury of the thigh, but paid little attention to it. It caused him no trouble until three months ago when he noticed a tumor the size of a lemon at about the middle of the thigh at the point of injury. The tumor increased rapidly in size and as there was slight fluctuation it was thought to be an abscess and incision was seriously considered. Fortunately, this was not attempted. When I saw the patient, five weeks ago, I found a large umor of an ovoid shape extending from the internal con-

dyle of the femur to the groin. It was very hard and no fluctuation could be detected. The leg and foot were absolutely normal. At first I thought it was an osteosarcoma, its hardness, slow growth, and immobility being in favor of that assumption. Two exploratory incisions were made and the tumor found to contain blood, examination of which showed an abundance of leucocytes. A skiagram showed the femur to be normal, therefore osteosarcoma was eliminated. The tumor was then thought to be a sarcoma of the sheath of the femoral vein and operation was undertaken. A gush of blood followed division of the tissues and examination showed the abnormality to be an aneurism in the internal fossa. Forcible pressure was made to control hemorrhage until the femoral artery was ligated at Scarpa's triangle. The sac was then dissected out with ease.

DR. WYETH: The cases are very interesting to me because of the fact that I have devoted so much time to the study of aneurism. I would suggest that in the future management of the first case a method be employed which I have tried in a case of this kind which was near the breaking-point, the aneurism having eaten its way through the thoracic wall. I boiled a lot of silver harelip pins and thrust them into the aneurism as if it were a pin-cushion, employing twenty or thirty of them and leaving them in the tumor eighteen hours. This procedure was repeated, the pins being left in thirty-six hours, and the result was that there was a perceptible effect in the way of thickening of the sac-wall. Under this mechanical effect the patient improved rapidly and the tumor went down to the level of the chest-wall. The man died two years later as a result of cerebral apoplexy. I think Dr. Beck would be justified in employing this method in his case as the tumor seems to be on the point of breaking through.

DR. DAWBARN: I had the pleasure of assisting Dr. Wyeth in the case to which he has referred. The method employed was suggested by McEwen of Glasgow. I think that in the case under discussion Dr. Beck should resort to either this procedure or to that which consists of introducing into the aneurism one or two meters of very fine piano-wire in such a manner that it will recoil upon itself in the sac, and passing through it a galvanic current, the positive pole being directed to the interior of the aneurism and the negative to the patient's back. The application should last half an hour and the end of the wire should then be tucked into the sac and left there. The administration of gelatin should be continued and I would suggest that large doses of iodid of potassium be added to the treatment.

DR. BECK: We have been giving the patient gelatin during the past six weeks, apparently with good results and it will be continued. I am very grateful for the suggestions which have been offered and later on will employ the method referred to by Dr. Wyeth; whose skill in the treatment of these cases is so well known.

DR. E. M. FOOTE then read the paper of the evening:

INGROWING TOE-NAIL; A COMPARISON OF METHODS OF OPERATION.

(see page 200)

DR. CHARLES N. DOWD: The author should be congratulated upon having devised a method which promises well. It is a modification of the operation of Anger, the essential feature of which is the removal of the matrix. This operator did not use cocain, and was, therefore, obliged to work very rapidly and imperfectly, so that his method has been improved by the surgeons who have modified it. I have been performing an operation which differs very little from that suggested in the paper, except that it takes away a little more of the tissue. I have not seen the deformity he refers to as a result of removing too much of the toe, but I am inclined to think his method the better one. It certainly removes the matrix of the nail and this is the essential principle. It should be dissected away almost down to the bone, and if this is done one can be sure there will be no recurrence. It is moreover a most simple method.

DR. ERDMANN: I have been employing a method very similar to the one described by the author, but during the last three years I have omitted the sutures, merely bandaging the toe when applying the dressing, and have not seen any trouble follow this simplification of the operation.

DR. DAWBARN: During the last ten years I have been performing a little operation which has proved so satisfactory to me that I have ceased to experiment with other methods. I make two incisions, which form flaps and, after removing the ulcerated and septic tissue, these are brought together and held in place by one silkworm-gut suture which extends across the nail and is removed on the tenth day. The important point is to remove the root of the nail. I have demonstrated the fact that it extends to within one-tenth of an inch of the joint. I remove but a very narrow strip of the nail—not more than one-tenth of it.

DR. TOUSEY: I have operated in at least three hundred cases of ingrowing toe-nail and have successfully employed a modification of an operation, a description of which I published some years ago. I do not use hemostatic forceps, but a very firm bandage. On the second day after the operation I soak the bandaged toe for half an hour to loosen the iodoform-gauze packing in the wound and then apply a Thiersch graft taken from the arm. I never take a graft from the leg, especially if the patient is a woman, for I regard all women as possible candidates for ulcer of the leg. I think surgeons should be warned against taking away too little tissue. Nor does it seem to me essential to make the nail narrow.

DR. W. W. VAN ARSDALE: I will admit that I have had trouble in operating in these cases but it has been because it is difficult to do any plastic work in dispensary practice in which these patients are usually seen. It is impossible to keep them off their feet during the process of healing. I have derived the most satisfaction from an operation which, I believe, is to be attributed to Hamilton and which I first saw performed by Dr. Wyeth. It consists in removing the entire matrix, scraping the periosteum from the bone, and closing the flaps made by the incision. All operators agree that the entire matrix should be removed in order to make the operation suc-

cessful. In the past it was my habit to remove one-half of the nail, but I found that within six months the patient would come back with ingrowing toe-nail on the other side.

DR. FOOTE, in closing: I hesitate to say that this operation was never performed before I did it, because so many operations have been devised for the cure of ingrowing toe-nail that one cannot be familiar with them all. In regard to the distance of the matrix from the joint, this was stated in the paper as being one-fourth of an inch. As to a narrow nail causing as much trouble as a wide one, the width of the nail is not a factor in giving rise to this deformity. The curve of the nail is the cause of the trouble.

REVIEWS.

ON CARDIAC FAILURE AND ITS TREATMENT; with Especial Reference to the Use of Baths and Exercise. By ALEXANDER MORISON, M.D., F.R.C.P., London: The Rebman Publishing Company, Ltd., 1898.

THIS book is well worth careful perusal. It is a serious endeavor to consider the treatment of chronic cardiac affections on scientific principles.

The book is divided into four parts; the first deals with the diagnosis and symptomatology of cardiac failure; the second considers the neuromuscular and hemic factors in disease of the heart and their bearing upon prognosis and treatment; the third deals with the general treatment of cardiac failure, and the fourth with the treatment by baths and exercise. A valuable appendix by Dr. Groedel of Bad Nauheim on the baths and exercises there employed completes the work.

Each division is carefully and studiously considered and perhaps with more detail than is necessary for a work of this character. This, of course, is not a fault, but, as the work will be read by trained physicians, it compels them to go over a mass of elementary material which should be relegated to works on physiology and physical diagnosis.

It seems to the reviewer that too much importance is placed on the use of the sphygmograms in the diagnosis of various intracardiac conditions. It is fairly well known that various sphygmograms may be obtained even with most accurate and reliable sphygmographs from the same case of cardiac disease within the space of a few minutes. It would, therefore, be unsafe to predict from sphygmographic tracings with any degree of assurance the character of the changes which the heart might undergo during treatment.

There can be no doubt that the chapters devoted to the general balneological and gymnastic treatment are deserving of all praise, containing as they do one of the best reviews of these subjects in the English language.

A CLINICAL MANUAL OF SKIN DISEASES. By W. A. HARDAWAY, A.M., M.D. Second edition. Philadelphia and New York: Lea Brothers & Co., 1898.

IN this new edition of Dr. Hardaway's book the text is completely rearranged and to a large extent entirely rewritten. The reader's admiration will be evoked by the skill with which the author has condensed within comparatively narrow limits so complete an account of the science of dermatology not less than by the impartial character of his judgment in all matters of controversy and by the thoroughly scientific spirit that pervades the whole work.

In estimating the value of a text-book on skin diseases the dermatologist will turn naturally to the chapter on eczema. A perusal of the seventy pages devoted to this subject in Dr. Hardaway's book will leave little to criticise and much to praise. That the book is thoroughly up to date may be inferred from the fact that even such recent subjects as Rixford and Gilchrist's remarkable cases of protozoon infection of the skin and Pollitzer's interesting views on xanthoma are sufficiently discussed. We congratulate the author on the marked success he has achieved and bespeak for the book the recognition which it merits.

THERAPEUTIC HINTS.

For Scrotal Pruritus.—

℞	Ac. carbolici	ʒ v
	Spts. rect.	ʒ vi
	Glycerini	℥ iiiss
	Aquæ	℥ x.

M. Sig. Mix one to four tablespoonfuls in a glass of hot water and use to bathe affected parts several times a day. In addition, sulphate of quinin and bicarbonate of soda are recommended for internal treatment.—*Brocq.*

For Essential Pruritus.—

℞	Ammonii valerianat.	gr. xv
	Syr. simplicis	ʒ v
	Aq. menthæ piper.	℥ iv.

M. Sig. Two to four teaspoonfuls daily.

For Ovarian Neuralgia.—

℞	Ext. belladonnæ	gr. iv
	Ext. stramonii	gr. v
	Lactophenin	ʒ iss.

M. Ft. pil. No. XX. Sig. Two or three pills a day. —*Martin.*

Application for Fissure of the Tongue.—

℞	Ac. carbolici	*m.* xii
	Tinct. iodi	*m.* xl
	Glycerini	ʒ ii.

M. Sig. External use.

For Painful Burns, Fissures, or Ulcers.—

℞	Orthoform	ʒ ss– ʒ i.
	Vaselini	gr. lxxx
	Lanolini	℥ ss.

M. Ft. unguentum. Sig. External use.

For Impetigo.—SABOURAUD recommends a camphorated solution of sulphate of copper and sulphate of zinc (1–100 or 1–200) applied continually by means of compresses, as the most effective treatment.

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ORIGINAL ARTICLES.

THE PROBLEM OF TYPHOID FEVER IN THE UNITED STATES.[1]

BY WILLIAM OSLER, M.D.,
OF BALTIMORE, MD.;
PROFESSOR OF MEDICINE IN THE JOHNS HOPKINS UNIVERSITY.

WHAT I am about to say on the subject of typhoid fever may appear to many of you trite and stale; and so indeed it is, but under the circumstances the very staleness is a warrant for repetition; the triteness makes earnest reiteration a necessity. Nor do I forget that only two years ago a most interesting discussion on typhoid fever was held under the auspices of this society, a discussion which brought out many important practical points. Since then the country has had a very bitter lesson—not a more bitter one than it has had year by year as each autumn recurs, but the method of application coming as a sad conclusion to a brilliant military victory aroused a degree of public feeling which may be taken as an augury of hope.

For three generations the physicians of the country have been studying the problems of the continued autumnal fever. No other disease has possessed such a perennial interest; of no other acute disease can we read so full a history from American sources alone. With no other disease are associated the names of men still honored as our great leaders. The physicians of the first generation, to 1830, lived in a period of transition, when old theoretic conceptions were giving way to proper methods of observation. It is particularly interesting to see typhoid fever as depicted by one of the best of them, by one who in thirty-five years practised medicine extensively in every New England State but Rhode Island. I reread at intervals Nathan Smith's "Practical Essay on Typhous Fever," published in 1824, each time with increasing respect for his sagacity. There is more strong sane sense in his booklet of eighty-five pages than in anything that had appeared on "the slow nervous fever" since Huxham. It is most refreshing to turn from contemporary treatises on fever in English, French, and German to this clinical masterpiece. Happy the patients who fell into the hands of the old founder of Dartmouth Medical School and the first Professor of Medicine at Yale! With but little modification his section on treatment might be transferred to one of our year-books as the freshest and the best.

The men of the second generation did notable work in bringing new methods of observation and in clearly outlining the differences between typhus and typhoid fever. They came to the problem splendidly equipped, inspired by their great teacher, Louis, whose practical mind appealed with peculiar force to the young Americans who studied with him between 1828 and 1845. Among them, Elisha Bartlett, James Jackson, Jr., W. W. Gerhard, George B. Shattuck, and Alfred Stillé were chiefly instrumental in promoting in this country the study of fever. To appreciate their position one has but to read W. W. Gerhard's masterly contributions, and Bartlett on "Typhus and Typhoid Fevers," the first edition of which was published in 1842, a treatise which might be put into the hands of a student today for the main features of the morbid anatomy and symptoms of these diseases. The contrast between the modern stand taken at that date by leaders of medical thought in this country and in Europe, particularly in England, is shown by the fact that Sir William Jenner, recently dead, had to attack the problem anew in 1849–50, before English physicians could be convinced of the essential distinctions between typhoid and typhus fever. In acknowledging the work of others he particularly mentions the names of Gerhard, Shattuck, and Bartlett as men who had already done what he was about to attempt. And I should like to remind you that one of the best contributions to the subject, Austin Flint's "Clinical Reports on Continued Fever" was the outcome of a committee appointed by this society nearly fifty years ago.

I shall not allude to the labors of the men of our own generation. The care and zeal with which typhoid fever has been studied during the past thirty years by the physicians of this country has been beyond all praise. I wish to emphasize as strongly as it is possible to do in words, that we as a profession have been persistently alive to its importance. This I feel is important to affirm as I heard the suggestion from a lay quarter that perhaps if we had studied the disease more thoroughly there would be less of it in the country.

To bring into stronger relief the contrast which I wish to draw, bear with me for a few minutes while I review a few familiar points. One of the great

[1] An address delivered before the Medical Society of the State of New York at Albany, February 1, 1899.

facts in the history of the past half century has been the remarkable increase in our knowledge of the infectious diseases. In any general survey of this group there is, perhaps, no single member of it upon which we physicians can dwell with greater pride and satisfaction than upon typhoid fever. In every relation the growth of our knowledge has been extraordinary. The etiology has been so worked out as to justify the hope that the remaining gaps will soon be filled. Think for a moment of the laboratory work of the past twenty-five years! Our position to-day is the result of the combined labors of thousands of workers in Europe and in this country—labors carried out with a devotion and zeal for which we general practitioners (I say nothing of the public) are not always properly appreciative.

I need not dwell upon any special points in the morbid anatomy, or indeed upon the symptomatology, in both of which we have progressed chiefly in a very much wider recognition of the clinical and anatomical features of the disease.

The diagnosis has been simplified partly by the accurate differentiation of it from typhus fever (which has almost totally disappeared), partly by the discovery of the parasite of malarial fever, but still more by the grouping of well-recognized symptoms, and by certain special methods for the detection of the bacilli or of the reaction of their products.

And most important of all for the individual patient our enlightenment on the question of treatment has been full, I will not say conclusive, in all directions. Nursing and diet are universally recognized as the most essential elements, and we have abandoned, in great part at least, the active measures of our grandfathers, bleeding, vomiting, and purging. The death-rate has been lowered eight or ten per cent. It is not an easy matter, however, to get the average physician out of the drug habit in typhoid fever. The words of the wise old man, Nathan Smith, should still carry weight: "It does not follow, of course, that the disease in all cases requires remedies, or that a patient should necessarily take medicine because he has the disease."

But these advances, as we call them, sink into insignificance before the triumphs of sanitation in the prevention of the disease. Sixty years of sanitary reform have swept away typhus and cholera and have restricted yellow fever within narrow areas; we have learned how to fight tuberculosis and diphtheria, and in a hundred other ways the prevalence of the infectious disorders has been lessened. One demonstration stands out in clear relief above all others—*with a clean soil and pure water typhoid fever disappears.* In cities which stood at the head of the list in mortality from the disease, as Munich and Vienna, the death-rate has dropped to the lowest known percentage after the introduction of drainage and a good water-supply. The object lesson of some of the Continental cities has been paralleled in a few—but far too few—of the cities of this country. Figures in illustration and black diagrams have done duty at our societies until many of the members squirm at the very name of Munich. That imperfect drainage and a polluted water-supply mean a high mortality-rate from typhoid fever is the very alphabet of sanitary science. In scores of instances carelessness in one or other of these points has led to widespread epidemics; incessant vigilance is universally recognized as the price of safety. I need not dwell further upon this aspect of the question, but I repeat, Mr. President, that we can point with justifiable pride to typhoid fever as the best understood, the most carefully studied of the acute infections, the one most directly under our control, the one in which the greatest victories of hygiene have been won.

Let us turn from this picture with its glowing colors to a more somber canvas. Last autumn this nation in the moment of victory had a rude awakening, a sudden conviction, a hard lesson. A voice like that heard in Ramah went up throughout the land—"lamentation and weeping and great mourning." From Montauk Point to San Francisco, from Minneapolis to Tampa, Rachels were weeping for their lads cut off by a cruel disease. The most bloodless campaign in history was followed by a relatively greater mortality from disease than in any recent war, and chiefly from this very disease over which I have been chanting the peans of the triumph of our profession. To us these autumnal dirges rang no new tune; we had heard the same in the palace of the rich, in the crowded tenement, in the hospital ward, in peaceful New England valleys, in the settler's shanty of the far West, in the lumberman's shack, in the mining camp. Year by year we had listened to the Rachels of this land weeping for their fair sons and fairer daughters, not killed by any pestilence that walked in darkness, but by a preventable sickness that destroyed in the noon-day—the noon-day of the intelligence of a civilized people. People asked each other what it all meant. Nothing more than a slight extension of the judgment upon criminal neglect of sanitary laws. The number of soldiers who died of typhoid fever during and after the war was a bagatelle in comparison with the total annual deaths from the disease in this typhoid-stricken country. Throughout the length and breadth of the land typhoid fever prevails so extensively in township and county, in village and city,

that any large body of men aggregated together is almost certain to become infected.

This is a nation of contradictions and parodoxes. A clean people, by whom personal hygiene is carefully cultivated, displays in matters of public sanitation a carelessness which is simply criminal. A sensible people, among whom education is more widely diffused than in any other country in the world, supinely acquiesces in conditions shameful beyond expression. I do not propose to weary you with statistics, of which our journals and reports are full, but I will refer to a few facts drawn at random from three cities and three States, illustrating this shocking neglect.

Philadelphia, the most typical American city of the Union, presents to-day a state of appalling apathy. For years the diluted sewage of the Schuylkill Valley has furnished drink to its best citizens, who bathe for many days of the year in water resembling a thin pea-soup. Individually the Philadelphian seems to be—nay, he is—an intelligent being, who deplores sincerely this condition. Collectively such a community must be regarded as lacking in one of the most essential features of civilization. Last week (ending January 28th) there were 40 deaths from typhoid fever in the city, and 420 cases reported! Last year it is estimated that there were between 5000 and 6000 cases of typhoid fever, 600+ of which were fatal. A writer in the *Philadelphia Medical Journal* last week estimates the money loss from this disease at a million and a half dollars.

In Baltimore we are a little better off, though typhoid fever prevails extensively, and more than two hundred people die of it annually. The city is unsewered, has more than 80,000 cess-pools, and has a water-supply with unprotected sources. With proper sanitary measures the present death-rate of between 40 and 50 per 100,000 of the population should fall to 10 or 12.

The condition of the National Capital is an excellent sanitary index of the whole country, and illustrates, too, how persistently those in power neglect the repeated warnings of the medical profession. One might have supposed that in Washington, governed by a commission under direct control of the central government, and to a large extent free from the influence of politics, sanitary measures, which are everywhere recognized as essential, would be carried out. For years the Medical Society of the District of Columbia has agitated the subject, and committees have urged upon the commissioners certain much-needed reforms, particularly relating to the purification of the Potomac water, which is practically the only source of supply. A committee, of which Dr. George W. Johnson was chairman, reported recently that for the past seventeen years there has been an annual average of nearly 1500 cases of typhoid fever.

Dr. Smart of the Army, a leading expert on sanitation, expressed the plain truth when he said the other day, that *in the matter of the purification of the water-supply of her large cities, the United States is a generation behind Europe.* Serious as is this condition in so many of the large cities of the Union, it is not, in reality, so dangerous as the widespread extension of the disease throughout the smaller towns and country districts. The last reports of three important States illustrate this. We gather from the "Report of the Board of Health of the State of Indiana" that of the ninety-two counties typhoid fever prevailed in all but ten, and from some of these there were no reports. A total of 655 persons died in the counties of the State from typhoid fever during the year ending September, 1897.

In your own State the last annual report issued (1897) gives the total number of deaths from typhoid fever as 1585+, to which must be added a very large proportion, at least, of the deaths recorded as due to the malarial fevers. If we allow, say, 38 deaths from the various forms of malarial infection in New York State, which I put as a very large figure for the year, this brings the total mortality from typhoid fever to 2000+. It is interesting to note, as bearing out what I said in connection with the wide extent of the disease in the country and smaller towns, that those districts of the State with a percentage of city population under 50 per cent. have a relatively greater death-rate. The maritime district, for example, with 90 per cent. of city population, has a death-rate of only 16+ per 100,000 of population, while the Hudson Valley, with only 40 per cent. of city population, has 37+; and the Mohawk Valley and the southern tier of counties, with 31 and 30 per cent. respectively of city population, figure with 34+ and 37 deaths per 100,000 of population.

In the organized study of sanitation Michigan is one of the model States of the Union. Dr. Baker's reports upon the prevalence of typhoid fever are of particular interest. In his last, 1897, it is stated that there were in Michigan 642 separate outbreaks of the disease, with 774 deaths, a rate of 23+ per 100,000 living. There were only three counties from which the disease was not reported. It is gratifying, however, to note the gradual reduction of the death-rate from typhoid fever in the State during the twenty-nine years available for statistical data. While still far too high, the persistent efforts of the State Board of Health are gradually limiting the ravages of the disease.

Mr. President, the problem of typhoid fever, no

longer in our hands, has become a question of grave public concern. What more can we, as a profession, do? From the text *Salus populi suprema est lex*, in season and out of season, we have preached sermons which fill huge volumes of State reports, and as regards typhoid fever, we have preached in vain. Perhaps not wholly in vain, since in many cities, as in Boston, in many States, as in Massachusetts and Michigan, the incidence of the disease has lessened materially; but the existing conditions are proof that we have failed to bring conviction home to the minds of the people. An incidental advantage of the late war was the direction of public attention to the widespread prevalence of the disease, but it is doubtful if the lesson was bitter enough to enforce at once the teaching that matters of health come within the province of practical politics. It may seem a hard saying, but for the sake of prospective victims in the years to come, let us hope that the deaths from typhoid fever this year in Philadelphia may reach 1000, and the number of cases 10,000. *Then* the citizens of that town will stop drinking sewage, and will soon be able to wash in clean water. Great epidemics are the only great reformers, but, except in limited areas, typhoid fever rarely now assumes pandemic proportions. Quite as impressive, though more difficult to teach, is the lesson of its disappearance in large towns previously hot-beds of infection by attention to ordinary sanitary laws.

The solution of the problem is easy. What has been done in many parts of Europe can be done here; the practical conviction of the people is all that is necessary. Upon them is the responsibility. Let us, meanwhile, neither scold nor despair. The good-natured citizens who make up our clientele, pay our bills, and vote the straight party ticket have but little appreciation of scientific questions, and are led as easily (more easily) by a Perkins or a Munyon than by a Lister or a Koch. Under the circumstances it is marvelous that so much has been achieved in fifty years. "The larger sympathy of man to man" which we physicians are called upon to exercise daily in our calling, demands that we continue our efforts—efforts often fruitless in results, but very helpful to ourselves—to educate this foolish public. What is needed seems so easy of accomplishment—the gain would be so enormous! We ask so little—the corresponding benefits are so great! We only demand that the people of this country shall do what Elisha asked of Naaman the Syrian—that they shall wash and be clean—that they shall scour the soil on which they live, and cleanse the water which they drink.

The problem will be solved when, first, *every city in the Union has a supply of pure water (including ice), and is properly drained;* secondly, *when suburban and rural hygiene are systematically organized.* In many ways a city's danger is from the country. Infected milk, infected ice, infected oysters, and dirty health-resorts account for a considerable percentage of the cases treated in the towns. Many of the State Boards of Health need a more efficient organization; all need a larger annual appropriation. A bureau of public health should form an integral department of each State government, with which civic, county, township, town, and village boards should be in close organic affiliation. The salaries of the health officers should be changed from the beggarly pittance, almost the rule, to sums which would warrant a demand on the part of the public that such officials should have modern training in sanitary science. Special courses should be offered in the medical schools, as is done in England, or even diplomas given. All this will come when the health of the people is made a question of public, not party, policy. It is encouraging to note that such States as, for example, Massachusetts and Michigan, in which the health boards have the most efficient organization, are those in which the death-rate from typhoid fever has been progressively diminishing.

The responsibility for the widespread prevalence of the disease rests directly upon the wanton carelessness of the people. God's own country, with man's own backyard, and the devil's own cesspools expresses the existing conditions. A threefold duty devolves upon the members of our profession: First, to preach cleanliness! cleanliness!! cleanliness!!!; secondly, to give a loyal and willing support to the State health officials; and, thirdly, to guard every case of typhoid fever as a center and possible source of further infection.

Let us hope, Mr. President, that the lesson of last autumn has been taken to heart by the citizens of this land. Sometimes from our desolation only does a better life begin. Surely, the blood penalty has been paid in full for the gross neglect of sanitary laws. The wantonness of the sacrifice is so terrible, so inhuman. Nature is inexorable and, red in tooth and claw with ravin, knows nothing of our humanitarian care of the individual. But her sacrifice is never wanton. Careful of the type, careless of the single life, sacrifice is a law of being, a condition of existence. In one of his delightful lectures on the "Foundations of Zoology," Professor Brooks tells us that of the countless millions of the king of fish which yearly enter the Columbia River seeking the breeding grounds, in the stern impulse of propagation, none return. "The whole race is wiped out,

utterly exterminated, as soon as it arrives at maturity and physical perfection, in order that the perpetuation of the species may be assured." Our ways, thank God, are not Nature's. Indulge as we may in speculation on the improvement of the race, in practice we care nothing for the species, only for the individual. Reversing Nature's method, we are careless of the type, careful only of the single life. Year by year unwilling witnesses of an appalling sacrifice, as fruitless as it is astounding, year by year we physicians sit at the bed-sides of thousands upon thousands, chiefly of youths and maids, whose lives are offered up on the altars of Ignorance and Neglect. Walking always in its shadow, compassed always by its sorrows, we learn to look on death with mingled feelings. There is the death that comes with friendly care to the aged, to the chronic invalid, or to the sufferer with some incurable malady. Very different, indeed, is it with typhoid fever. A keen sense of personal defeat in a closely-contested battle, the heart-searching dread lest something had been left undone, the pitifulness of the loss, so needless—and, as a rule, "in the morn and liquid dew of youth"—the poignant grief of parents and friends, worn by the strain of anxious days and still more anxious nights—these make us feel a death from typhoid fever to be a Delian sacrifice.

For fifty years the profession has uttered its solemn protests, as I do this day; Mr. President, we have done more—*we have shown how the sacrifice may be avoided and the victims saved.*

SHOCK.[1]

By ROBERT H. M. DAWBARN, M.D.,
OF NEW YORK;
PROFESSOR OF OPERATIVE SURGERY AND OF SURGICAL ANATOMY IN THE NEW YORK POLYCLINIC MEDICAL SCHOOL AND HOSPITAL; VISITING-SURGEON TO THE NEW YORK CITY HOSPITAL.

If we study the world over the causes of fatality following major operations, we find either sepsis or shock at the head of the list. Of recent years there has progressively been a lowering of the mortality due to infection of wounds; but is this true of the proportion of deaths from shock? It has seemed to me that for many years little advance has been made in our method of handling shock. No surgical topic more deserves our research; none receives it so little. An infinite number of minor topics takes up the time of our investigators, but this, the great lion in the road to recovery, is avoided to a degree that is surprising. How can one help feeling astonished at such neglect who observes that even the most recent surgical text-books almost ignore it? For example, in New York State, two prominent works, recently issued, of 1240 and 1600 pages, respectively, devote the one, four, and the other three pages to the entire topic of shock! The same is true of the largest and most recent London work on surgery, of 2272 pages, which devotes four of them to the greatest cause of surgical deaths (next to infection),—not much more space than is devoted to bunion!

Space precludes a discussion of the pathology of shock, and yet a few sentences are necessary in order to make clear the views upon which at least in part the treatment is based. Doubtless, the last word has not yet been written on this topic. Nevertheless, the experiments of Professor Golz of Strassburg[1] have never been successfully contravened. They are well known to all surgeons.

We may divide our cases of shock into, *first*, those in which the cause, whether a physical or a mental blow at the nervous system, partially abrogates the functions of the sympathetic nervous centers; *second*, where the cause partially abrogates the functions of the cerebrospinal nervous centers, as well as of the sympathetic.

In the first group the brain does not succumb to the blow. It is still capable of performing its functions fairly well. The sympathetic nerves, however, no longer properly invigorate the cardiac ganglia, and the tone of all the blood-vessels is also lost. Because of the weak heart-action the blood tends to accumulate in the veins. The patient bleeds inwardly, that is, into his own veins. The blood, like any fluid, must move in the direction of least pressure, and so it accumulates in the relaxed, dilated veins, leaving the arteries partially emptied. The condition in its resultant symptoms is identical with internal hemorrhage. I know of no surgeon capable of making a diagnosis between this not very uncommon type of shock and inward bleeding. It is interesting to note that Professor Hare has recently shown that death from chloroform narcosis is really death from shock; his words are: "The man is suddenly bled into his own veins and capillaries as effectively as if into a bowl."

We should note that in this, sometimes called the erethistic type of shock (to distinguish it from the commoner torpid or apathetic type), the victim is usually perfectly conscious until nearly the moment of death; occasionally, toward the end, he is a little delirious or even convulsive, from cerebral anemia. He is restless, tossing about; he is thirsty, and yet often nauseated; he sighs for more air; his skin is cold, pale, and wet; his pulse is rapid and feeble. Are

[1] Read at the Ninety-third Annual Meeting of the Medical Society of the State of New York, held at Albany, January 31 and February 1 and 2, 1899.

[1] *Virchow's Archives* for 1875. "Ueber den Tonus der Gefässe und seine Bedeutung für die Blut bewegung."

not these, each and all, the signs of inward bleeding? But they are just as truly the signs of the erethistic type of shock. I am personally cognizant of two instances in which a famous gynecologist, a man of great surgical experience, treated a patient *post-operationem* for shock, but the autopsy showed the abdomen to be full of blood, due to a slipped ligature of the stump. In the one case (shock) the bleeding is *into* the paralyzed and dilated vessels; in the other (hemorrhage) *out* of the vessels. But the symptoms are one and the same, and are due mainly to lack of blood in the brain and heart.

In the second and commoner type of shock—the torpid or apathetic—not only the sympathetic system, but also the cerebrospinal centers, have felt and partly succumbed to the blow. The patient is, in the milder cases, mentally benumbed; in the worse ones, quite unconscious. Because of this benumbing of the higher centers, the signs of this, the commonest type of shock, necessarily differ very much from those of the first type described. He does not suffer, as would an active brain, from dyspnea, nor is he restless, nor does he complain of nausea or of thirst. He has, however, the cold, pale, sweating skin, the rapid, feeble pulse, the shrunken features of inward bleeding. Often he has lost control of his sphincters. Sometimes he is a little delirious or convulsive—more commonly, simply in stupor. His symptoms are precisely those of hemorrhage, except as just stated, and the reason for the difference is obvious.

The only condition (save inward hemorrhage) which can be confused with shock is fat embolism, and the differential diagnosis is not difficult. It is a special danger of fractures, and lacerations of or operations upon fatty tissues. At first the lungs suffer most from the infarction; later, if the patient survives and the fat is forced on through the pulmonary capillaries, the kidneys and other organs may also undergo fatty embolism. Five points aid in clearing up the diagnosis: (1) The time at which fat embolism develops. This, as compared with shock, is usually late, from two to three days after the injury. (2) The cyanosis, due to plugging of the vessels of the lungs. (3) The extreme dyspnea, with very rapid breathing and sometimes bloody foam or even hemoptysis. (4) The mental excitement which often ushers in the symptoms. (5) The presence of fat in the urine.

Causes of Shock.—These are properly divided into I. *predisposing*, and II. *exciting*.

I. Under the first head, fear is a considerable factor. I know personally of one fatal case in which the subject, shown by an autopsy most carefully made to have no apparent lesion or disease of any organ, died apparently of sheer cowardice, some hours before the time set for operating upon piles. His agitation and fright rapidly increased, and he suddenly collapsed, dying within an hour, and with symptoms of shock. All measures tending to reassure patients and to calm them are of utmost value in preventing shock. This is one reason why the writer always prescribes whisky and a little morphin with atropin an hour before operation. The patient, otherwise more or less frightened, takes his anesthetic in a calmer, an almost cheerful, frame of mind. Also, as these drugs are analgesics, less ether or chloroform is needed than otherwise, and hence there is less danger from it.

We should not forget, as one peril from major operations under minor anesthesia, that a conscious patient must be nervously affected in an unfavorable way by hearing the saw grating through his bone, or by seeing the bloody paraphernalia used, etc. All this tends to invite shock. To illustrate, an aspirating needle may safely be introduced in several directions into the brain of a patient who is under general anesthesia; whereas, the same needle would probably cause prompt death from shock if driven into the brain of the same patient while conscious. Futhermore, a conscious patient whose thoughts are diverted elsewhere, at the time of being cut, is apt to feel much less shock than one who is nerved to the suffering he is expecting. It is easier to snap a tense thread than one relaxed. All military surgeons have noted that a soldier severely wounded in battle may not realize it at all, for some time thereafter; and will suffer less from shock than if he were to lie down on the table in a state of expectancy, and while conscious receive an equally grave physical injury.

From the above points it follows that although one may, for example, amputate a thigh painlessly under cocain or other minor anesthesia, it may very possibly result in a greater degree of shock than would have followed general anesthesia.

Under the heading we are discussing comes also impairment of vital energy by uremic or lithemic or diabetic troubles, or other constitutional dyscrasias; by opium or certain other habits; by prolonged sleeplessness; by business worries or other anxieties; by recent illness; or by either infancy or extreme old age. Sometimes, too, there is a family inheritance whereby the slightest operation proves perilous; whereas, on the other hand, we occasionally find a man whom the most scientific surgeon can hardly kill—such is his vital resistance to shock.

II. *Exciting Causes of Shock.*—These may come in the form of either mental or physical blows. We

are now discussing the latter, mainly; and regarding operations, there are four of chief importance. These are: (1) Loss of blood; (2) length of operation; (3) excessive major anesthesia; (4) loss of vital heat during operation.

1. As to the first of these four: with advancing years a surgeon has an increasing respect for a drop of blood. Hemorrhage is not the only cause of shock; indeed, one may die from shock produced by a blow on the abdomen, and without any bleeding. Nevertheless, hemorrhage is certainly the main cause. Shock is apt, in its severity, to be directly proportionate to the amount of blood lost.

2. As to the length of the operation, here is a matter too often neglected. In abdominal work, especially, speed is only second to asepsis as the leading factor in success. If the operation lasts an hour or more in a given case, the patient is apt to "die cured"; whereas, with half the time, or less, the great sympathetic centers do not suffer so terribly from the exposure. The most successful gynecologist I know operates with a speed like a sleight-of-hand trick.

Since the introduction of anesthesia, the really rapid operators have become few; and not all surgeons seem to realize how prejudicial to the patient it is to prolong an operation for the purposes of demonstration to the bystanders. I think it would be well if certain operations of grave peril were more often *parted in the middle*, so to speak. In the enucleation of some great tumor of the neck, for example, which has already taken much time, and promises with the careful dissection needed to occupy as much more, and in which the patient is weak—here let us leave our work unfinished, apply a sterile dressing, and wait two or three days if need be, until he is fit to bear the remainder of the cutting. Of course this is no new idea, but it is much less often adopted in practice than would seem wise.

3. As to excessive depth of major anesthesia, we all know that quite aside from the severity of the accompanying operation, this jeopardizes the patient's chances of escaping shock. Occasionally we see the surgeon permitting his assistant to keep the patient snoring heavily throughout. As a rule this, which is an indication of deep paralysis of the velum palati, is needless and worse.

4. It invites also the fourth main cause of shock enumerated—loss of vital heat. Prolonged and profound anesthesia, as we all know, results in a heavy fall of bodily temperature. And too often careless exposure of the subject upon the table adds to this chilling.

Treatment.—It is the chief purpose of this paper to endeavor to emphasize the extreme value of certain means of preventing shock which would otherwise develop. Upon this plan of campaign against this great enemy can we alone rely for better figures of mortality than those of the past. If we wait until shock has actually struck its blow, too often that blow proves deadly. Where the gravity of the operation or severe loss of blood or other cause makes shock a probability let the surgeon use the "ounce of prevention" by striking first!

Of course we should endeavor to build up the patient's vital resistance by all means in our power. Where weakness from a constitutional dyscrasia or from any removable cause exists the indication for a preparatory line of treatment is plain. In most cases it is also well to exhibit strychnin in minute doses for several days before a major operation, thereby invigorating the nervous system. But the chief reliance, the one which is already working wonders in the hands of those who know how to use it, is the free use of intravenous, hot, saline infusion injected while the patient is still upon the operating-table and asleep from the anesthetic, in cases where the advent of shock otherwise seems a probability.

The use of saline solution to treat a patient already collapsed from shock is not a new thing. Neither is it a brilliant success, because nothing is, when severe shock has actually arrived. Some textbooks mention it with dubious praise; others almost or quite ignore it. But the thing which is my own suggestion (so far as a study of the "Index Medicus" and the New York Academy of Medicine Library enable me to judge) is the use of this great weapon for good at the right time and the right temperature.

This plan for the prevention of shock has been in use in my clinic since the autumn of 1891, as a consequence of conclusions reached after several months of experimental work upon dogs, with hot and cold vascular saline infusion after bleeding, testing intra-arterial pressures at differing temperatures of the injected fluid, with the kymograph and the mercurial manometer, under the kind supervision of Professor Curtis in the Columbia University Physiological Laboratory during the winter and spring of 1890-91. So far as I have seen printed evidence other surgeons did not until later adopt this plan in prevention of shock,[1] and it is commonly ignored even today by the bulk of the profession.

In evidence of priority is submitted a brief quotation from the writer's paper read before the Surgical Section of the New York Academy of Med-

[1] Dr. F. Lange did, however, in 1888, advocate diluted claret by rectum to prevent shock, where a very bloody operation was anticipated; and Drs. Weir, Tiffany, and others in the discussion approved of water in this way. ("Trans. Am. Surg. Ass'n," vol. iv, p. 540, *et seq.*)

icine, November 9, 1891, and published in the *Medical Record*, January 2, 1892: "Whosoever has noted the vigor with which unstriped muscle everywhere reacts to the use of heat—for example, the much stronger and decidedly more permanent uterine contractions which result from hot post-partal injections as contrasted with cold ones—must believe it probable that such unstriped muscle, forming as it does a most important tunic of the blood-vessels, would be greatly aided by hot saline infusion in regaining its lost tone. Perhaps, too, the central sympathetic centers would feel and respond to this stimulus. Now, since a more vigorous cardiac action (for the heart, though striated, responds to the heat), accompanied by a somewhat restored vascular tone, would go far toward recovery both from hemorrhage and its attendant shock, I have felt that the experiment was well worth trying." (I had tried it as a preventive of shock upon dogs only, before the paper was written.)

Again, a quotation from the writer's article in the *Medical Record* for November 12, 1892: "And why would it not be well at the end of any and every operation grave enough to make shock a probable result (though, because of the ether, not as yet at hand), to inject subcutaneously (*i. e.*, intravascularly) a quart or two of hot salt-water? It would be painless, the patient not yet being out of anesthesia. It would certainly be harmless. And I believe it would do much to prevent, by maintaining filled blood-vessels, otherwise fatal shock from developing. It seems not improbable that we shall ultimately see this done as a matter of routine after all severe operations." At that early date the writer had tried the method in but very few instances to prevent shock, using a half liter or more within the vessel and as much more in the cellular tissues; and could not, of course, speak as all can to-day who have used it properly, with absolute certainty as to its value upon human patients.

In this connection five points deserve especial consideration:

(*a*) The place of entrance, (*b*) the proper solution, (*c*) the proper temperature of that solution, (*d*) the proper amount, and (*e*) the speed of introduction.

a. In most cases the median basilic vein is chosen for the cannula. Occasionally a vein in the operating-wound will do. The writer demonstrated some years ago that if one is caught short of tools—has no scalpel, no cannula, no dissecting forceps nor retractors at hand—the saline infusion can safely be made to enter the common femoral artery (which, being large enough to admit a lead-pencil, can always be felt pulsating if the patient still lives) by aid of a hypodermic needle attached to a Davidson syringe or a fountain-syringe.[1]

We must not neglect to mention that when speed is not a factor—when a prompter stimulant effect is not essential—the rectal route is an excellent one. Even during the operation the maintenance of a full, large bowel by means of Kemp's rectal irrigator can only be of benefit and is additionally a means of safeguard against dangerous chloroform narcosis—by maintaining filled vessels. And after the patient is removed to bed it is sometimes wise (in order to maintain the good effects of the intravascular infusion until the danger-point is well past) in bad cases to give the hot colonic irrigation alternately, an hour on and an hour off, for perhaps a half day.

When, following confinement, the accoucheur has a partly exsanguinated patient, he adds wonderfully to her comfort if he injects high up a couple of liters or more of very hot salt water by rectum. It is instructive to note that not a drop of the amount thus poured into the colon will ever be seen again. It is taken up greedily by the thirsty blood. In an emergency, elevating the foot of the bed upon a high chair and pouring in the salt water through an ordinary tin funnel inserted in the anus suffices. If the loss of blood has been extreme, intravascular infusion should also be employed; for the condition of the bowel-wall, and of the refuse material coating it, may, at times, have an adverse effect upon ready exosmosis of the salt water from the intestine, rendering this route perhaps less trustworthy.

As to hypodermoclysis, it is the slowest of all methods. The lymphatics are not very speedy in permitting the diffusion of water entering the connective tissues. Also, if the proper bulk of fluid is so introduced, it means quite a number of punctures, painful the next day. To prevent shock, then, I do not advocate this route so much as others. Upon its special value at times in choleraic infant diarrhea I have heretofore written.[2]

b. The fluid used should be the so-called normal, really decinormal, salt solution; which is six parts of common table salt per thousand, boiled, and filtered; roughly, a heaped teaspoonful to the liter or quart. So far as we are able to observe, this is as good, practically, as more complicated formulæ resembling more closely the exact chemical composition of the blood-serum. The use of blood transfusion, both for treating post-hemorrhagic conditions and shock, has been entirely dropped, as no more effective at the moment than saline infusion, and as being dangerous, later, both from possible embolism and from

[1] For details, again discussed, as to this emergency method, see *Medical Record*, December 10, 1898.

[2] *Medical Record*, November 12, 1892; also, December 10, 1898.

the certainty that every blood-cell so introduced will speedily break down, threatening to clog the liver and kidneys with the waste products of destructive or retrograde metabolism of tissues.

It does not seem so widely known as should be the case that plain warm water, devoid of sodium chlorid, must not be used intravascularly. For example, in a recent article, in the *Medical Record*,[1] upon "Saline Infusion," the author, Dr. Reilly, copies without adverse comment a most dangerous bit of advice from Messrs. Bosc and Vedel, namely, that "ordinary water is non-toxic, not very destructive to the red corpuscles, and might be used in an emergency." Also, in the "Transactions of the London Obstetrical Society" (meeting of December 6, 1893) may be seen a similar suggestion by a member, Dr. Horrocks, who was of opinion that the salt was a luxury, but not a necessity. He did not claim, however, actually to have ever used plain water in this way, and no member present agreed with him in advising it. It is certain that whosoever tries this, will, if the water be used in the customary large amount, kill his patient with quite indecorous speed by a wholesale disintegration of the red discs. The addition, however, of even so small a proportion of salt as six-tenths of one per cent. renders it safe for vascular infusion. Perhaps a quotation from an experiment of mine at the Columbia University Physiological Laboratory may emphasize this point, which surely needs emphasis.[2] "On May 15, 1891, I operated on a large dog, weighing before operating 16.77 kilos. On the one-in-thirteen hypothesis (of blood to body-weight) his weight of blood would have been 1290 grams, or, allowing for the specific gravity of blood, about 1222.75 c.c. The cannula of the mercurial manometer was introduced into the right carotid. The right femoral was used for bleeding, the left femoral for injection of the hot salt solution. Professor Curtis superintended the working of the kymographic needle. Dr. F. J. Brockway assisted me. We drew 563 c.c. of blood." Upon attempting to replace this, and a smaller subsequent bleeding, by the salt solution with which at various temperatures I was experimenting, "a mistake"—a most interesting and instructive one—was made. Dr. Brockway and I each supposed that the other had added the salt to the hot water, whereas in fact neither had done so. And within a minute after receiving a considerable amount of this plain-water injection the animal died." Previous dogs, bled to an equal degree, had done beautifully and recovered under saline infusion. Hence, we were much puzzled until Professor Curtis asked if the salt had been added, and stated that without it water in considerable amount will kill almost as quickly as prussic acid—and in the way already named.

c. The proper temperature for the injection-fluid is *as hot as the hand can bear*, and this is about 120° F. or 49° C. (Of course the temperature at the heart, when the great bulk of blood has diluted the slowly entering fluid, will be much lower than this.) There need be no fear of injuring the blood or other tissue by such heat. Very many times the writer has now used it, and never with cause for subsequent regret. This point seems not at all well-known as yet in the profession, and nearly all the text-books still advise infusion at about 100° F. The higher temperature here recommended is very stimulating to the flagging heart, and maintains the tone of the muscular tunic of the vessels. This is well illustrated in the photographs I now show you of kymographic carotid tracings at various temperatures. So recently as last winter Dr. Robert Coleman Kemp, at the Columbia Physiological Laboratory, in pursuing some investigations in a somewhat different line, had occasion to repeat my manometric and kymographic experiments of some seven or eight years ago, and re-verified their correctness—he, too, finding that at 118°–120° F. the tracings showed the best results upon heart and vessels. His statements were published in the *Record* early last autumn.

To maintain the desirable degree of heat, the reservoir containing the water should be wrapped in a large warmed towel or sterile blanket during the time occupied by the act of infusion.

In Dr. Reilly's article, quoted, he mentions a conclusion of Athansin, a French experimenter, upon this matter of the proper heat, which I must believe to be an error. He says: "In animals, at least, solutions having a temperature of 165° to 175° F. can be safely used." Now, upon reference to Kirke's "Physiology," eleventh edition, p. 846, it will be seen that globulin coagulates at 70° C. (158° F.), and Dalton's "Physiology," seventh edition, p. 80, affirms that serum-albumin clots at 72° C. (162° F.).

It will be noted, however, that both 158° F. and 162° F. are about 40° F. hotter than the hand can support, as above stated. So that the temperature which I advise is a long way from being unsafe. The hand-test of the heat, as suggested, will be found both safe and accurate enough in actual practice.

(*d*) The proper amount of the injection-fluid may be set down, for the adult, as never less than a liter, often two liters, and occasionally, perhaps even three liters, injecting always very slowly. To

[1] November 12, 1898.
[2] See *Medical Record*, January 2, 1892.

give a half-liter or less is, for the prevention of shock, almost valueless. The upper limit of safety has not as yet been very exactly formulated. The kidneys readily remove any water from the blood in excess of its needs. Should these be diseased, a less amount must of course be employed than otherwise.

(*e*) The time occupied in introducing the fluid into a vein should never be less than ten minutes per liter. To be sure, I have seen it caused to flow with double this speed and without ill effect; but, on the other hand, a temporary period of threatening heart-failure due to this cause—a rapid overstimulation—has been at times observed.

Of late we have all noticed in the journals that a few enthusiastic friends of this plan of preventing shock by saline infusion are using it at the *beginning* of the operation—before even a drop of blood has been lost, or any strain whatever put upon the nerve-centers. If this were only done by the plan of keeping the large bowel full of hot salt-water I should find no fault, for here the blood will to some extent take up water only as it needs it. But I doubt the wisdom of the preliminary distention of vessels by intravenous infusion; for one reason, because it is plain that by such a practice we add to the amount of blood lost. For every spurting point will, from increased pressure, spurt much more vigorously before it can be caught, than otherwise it would do.

Just a word as to the repetition of the dose. Many times I have read of surgeons using it once in a given case and reporting a temporary good effect, but that subsequently the patient died of shock. Now, of course no method can save all cases of every dangerous disease; but common sense would teach us that if a dose obviously does good it should be repeated, and this so long as the same indications call for it. From this it does not follow that we must open a vein again and again. The rectal hot saline douche will if rightly used, give approximately as good results for such purposes. The bed should always have its foot elevated very high, and this should remain so until danger of shock is well past. This position maintains a better supply of blood to both brain and heart, and also helps in the retention of the fluid in the large bowel. Alternately an hour on and an hour off seem to produce more desirable results than a steady maintenance of the flow through Kemp's tube. I think it wise not to consider the patient past his danger until the pulse becomes as low, at least, as 120 per minute, and shows no tendency to occasional increase above this number.

Thus far I have discussed the *prevention* of shock, but have said nothing as to its treatment when actually developed and threatening the patient's life. Concerning this last I have little to say, and that is not new. If we are unfortunately called to an accident case, and find the victim in collapse, which is another name for shock, hot saline infusion is worth trying—but with small hope. Strychnin hypodermically is probably, when used freely, our best reliance. Some surgeons use it even to the point of producing slight spasms—if the shock does not yield earlier. Hot applications about the person are essential—elevation of the foot of the bed, a help. But two prominent "*donts*" should never be forgotten, namely, *dont* overstimulate the heart, and *dont* give a particle of food by mouth nor any medicine even remotely capable of causing nausea.

If the pulse comes down to anything like reasonably safe numbers—as discussed a minute ago—let well enough alone; for if that tired heart be overwhipped it is likely to quit work. And as for the second "*dont*," what is nausea in all of its symptoms but one type of shock? There is the cold, wet skin, the weak pulse, the sensation of vital collapse; and no one should take the least risk of adding this—if not already present—to the surgical shock.

The duration of shock is not many hours, as a rule—as to its worse phase. Certainly it is not so prolonged but that the patient may easily have his strength sustained during this period, without using his stomach—by nutrient enemata, or hot coffee by rectum, etc. And any needful remedies which might otherwise nauseate can surely also be administered by this route, or better still, by needle. I dwell upon this matter, because one so regularly sees this "*dont*" neglected, to the patient's detriment.

I wish that time permitted a discussion of the question of amputation of crushed and lacerated limbs during shock, and of the relation of anesthesia to this problem, but this is impossible.

THE TREATMENT OF PATIENTS SUFFERING FROM PULMONARY TUBERCULOSIS WHO CANNOT GO AWAY FROM HOME.[1]

By DE LANCEY ROCHESTER, M. D.,
OF BUFFALO, N. Y.;
ASSOCIATE PROFESSOR OF THE PRINCIPLES AND PRACTICE OF MEDICINE IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF BUFFALO.

I beg leave to introduce my remarks by the report of two cases:

Case I.—November 13, 1897. J. P. B., male, aged twenty-five years; nativity, U. S.; occupation, bank clerk; single. Family history good. Personal

[1] Read before the New York State Medical Association at its Fifteenth Annual Meeting, held at New York, October 18, 19, and 20, 1898.

history: Residence in lower part of city, on rather low land, in brick house without cellar; very little sunshine. Habits good. Scarlet fever in childhood. Four and one-half years ago had so-called "nervous fever"; sick with high fever for four weeks; probably typhoid; complete recovery. In April, 1897, had an attack of epidemic influenza; since then has coughed constantly; has had almost daily an afternoon rise of temperature and frequent severe night-sweats. Appetite poor; bowels regular; temperature in afternoon 102.5° F.; tongue broad, pale, flabby, and covered with slight gray coating; pharynx pale; larynx normal. Physical examination of chest revealed infiltration of both apices with softening and small cavity in right upper lobe and infiltration at base of right lung. General bronchitis throughout both lungs. The amount of sputum in twenty-four hours was 200 c. c., mucopurulent in appearance and nummular, containing many pus-cells, some pus-organisms, tubercle bacilli, micrococcus tetragonus, and elastic fibers. Weight 149 pounds. Height 6 feet 2 inches.

This case was not one that promised well for treatment, but I explained to the young man the nature and character of his disease and impressed him with the importance of attention to every detail of the treatment suggested and encouraged him in the belief that by persistence in treatment he might recover. The treatment instituted was as follows: An out-of-door life; sitting, well-wrapped up, on the veranda, when rain, wind, or wet snow prevented walking; at other times walking in the open parts of the city where purer air could be found; careful attention to a daily evacuation of the bowels; a full warm tub-bath once or twice a week and a cool sponge followed by brisk rubbing every morning; regularity in hours of meals and slowness of mastication and swallowing of food; food to consist chiefly of meat, eggs, baked potato, boiled rice, stale bread and butter, and some of the green vegetables, fruits, and plain desserts; beverages, milk (not to be taken at the same meal with meat), water, cocoa or chocolate, coffee in moderation. The medical treatment consisted of a proper emulsion of cod-liver oil and the administration of guaiacol and terebene emulsified with milk of magnesia and syrup of tolu, and the use of an inhalation containing one gram of menthol and two grams each of spirits of chloroform, guaiacol, terebene, eucalyptol, and thymol. Five to ten drops of this on absorbent cotton was packed tight in a cigar-holder inhaler for constant use, the drops and cotton being renewed every two or three hours.

He has been under this treatment for eleven months and has made constant but slow improvement. The entries on my record book are as follows: February 14, 1898: Improved in all respects. Weight 155 pounds 10 ounces. May 9, 1898: During last two weeks has not felt so well; has coughed more; expectoration, however, is somewhat less (150 c. c.), varying somewhat from day to day; the elastic fibers have become much less; tubercle bacilli decidedly fewer in number, but the pus-cells and organisms remain about the same and the micrococcus tetragonus is still present. Physical examination still shows the evidence of infiltration of upper right lobe, though the evidences of active softening have disappeared and the cavernous breathing is becoming more bronchial in quality and pitch. The evidences of infiltration of left apex show that the area is much diminished and the evidences of infiltration of the right base have disappeared; there remains, however, sibilant and sonorous breathing with râles throughout both lungs. Weight 155 pounds, 4 ounces. At this time there was added to his treatment the following mixture:

℞	Balsami copaibæ	6.00
	Mucilag. acaciæ	50.00
	Morphin. sulph.	0.10
	Ol. menth. pip.	0.10
	Ol. amygdalæ amaræ . . .	0.20
	Syr. tolutani	44.00

A teaspoonful of this was taken every four hours. From this time on his improvement continued uninterruptedly. On June 9th his weight was 156½ pounds; the expectoration had diminished to not more than 100 c. c. in twenty-four hours, the elastic fibers could no longer be found, there was only an occasional micrococcus tetragonus, and very few tubercle bacilli, but pus-cells and organisms were still present.

I did not see the man again until October 10th. He told me he considered himself well and for the last month had taken no medicine but cod-liver oil, but had continued the use of the inhalation. He has almost no expectoration; succeeded in saving only 2 c. c. in forty-eight hours. Careful examination of the centrifuged sample shows no tubercle bacilli, no micrococcus tetragonus, no elastic fibers, and only a few pus-cells and organisms. The physical examination of the chest gives no signs of disease except bronchial breathing in the right supra- and infraclavicular region and increase in vocal resonance in the same regions and in the right interscapular region. Not a râle is to be heard. His weight is 161½ pounds.

CASE II.—March 18, 1898. Mrs. G. W. K., U. S., aged thirty-six years; occupation, housewife; residence, country village; well built, dry house. Habits good. Family history: Parents both dead at the age of sixty-nine years, mother of dysentery, father probably of some form of heart disease. One sister died in childhood of dysentery and one of acute phthisis following childbirth. Personal history: Patient has had all of the acute infectious diseases of childhood; has been well since then until present illness began; has two children, eldest three years old, youngest three and one-half months old.

The patient did not nurse her first child; nursed her second child for three weeks, but had to stop on account of very sore nipples. She said she took cold when the baby was four weeks old and had coughed ever since; *i. e.*, for two and one-half months. On February 3d raised one ounce of dark blood. Her greatest weight has been 120 pounds; her present weight is 111 pounds, 10 ounces. She is pale and

thin in appearance, has irregularly recurring chills and fever and occasional severe sweats. Her temperature at 2 P.M. is 103° F., respiration 22, and pulse 134, small and compressible. She sleeps badly on account of cough which is much worse at night. She has been distinctly hoarse for a week or ten days. Her appetite is poor but she seems to digest her food and has no gastric distress. Her bowels are persistently constipated. Her capillary circulation is poor as evidenced by cold and bluish hands hands and feet. Examination of her throat shows a pale pharynx and infiltration of the posterior laryngeal wall, with swelling of the arytenoid cartilages and some redness of the vocal bands.

Physical examination of the chest reveals a weak cardiac first sound with marked accentuation of pulmonary second sound. Tubercular infiltration in upper lobe of each lung with cavity of considerable size and small cavity in left. She did not bring her expectoration with her but said it was considerable, chiefly raised at night and early in the morning.

I sent her home with a very bad prognosis, writing to her physician that I thought her case was one that would go on rapidly to death but that it was always well to try in cases of tuberculosis even though they seemed hopeless. I gave her a diet-list and wrote out the following directions for her daily life: Sit out of doors all day long, covered sufficiently and protected from inclemency of the weather. As strength returns take drives and finally walks. Take a tumblerful of hot water every morning one hour to one-half hour before breakfast, and a tumblerful of cold water one-half hour before each of the other meals. One hour after breakfast, whether there is desire or not, have a movement of the bowels, inducing it by enema if it cannot be had otherwise. Three hours after breakfast take half a pint of milk with a raw egg and a tablespoonful of whisky or sherry stirred in it, and a very little sugar. Three hours after dinner take the same or a cup of chicken broth with a teaspoonful of somatose stirred in it. Three hours after supper take half a pint of hot malted milk. With the noon meal drink a pint of lager beer or half a pint of ale or porter. Every morning use a cold-water spray over the shoulders and chest in front and back, followed by rubbing with a soft crash towel. A cold sponge-bath every afternoon at 4.30 or 5 o'clock, followed by a similar rub. A full hot bath in the tub once or twice a week. Dress warmly with wool next the skin, but never wear a so-called chest-protector and never wrap anything around the throat. The medicinal treatment included the same inhalation as in Case I. and the same guaiacol and terebene emulsion.

On May 15th her physician wrote reporting improvement in all respects. On July 15th she again came into my office feeling much better. She had gained three pounds in weight; the chills and sweats had disappeared; her temperature was 100° F., though she said she no longer had fever. her pulse was 100; her respiration 20. Appetite had returned; bowels were still constipated; she slept better, coughed and raised less; hoarseness had disappeared. Examination showed that the swelling and redness of the larynx had disappeared; there was still the cavernous breathing in each upper lobe, but there were almost no râles. Presuming upon her improvement she had already begun to let up on the strict carrying out of instructions. I tried to impress upon her the importance of persistence, but I have since learned from her physician that she is failing, again having the chills, fever, and sweats, but not to the same severe extent as formerly.

I have chosen these two cases from quite a large number because neither was a promising case for treatment, but each shows how much can be accomplished by persistent trying. For the examination of the sputum in these cases, as in all my others, I am indebted to Dr. Nelson G. Russell. For the formula for the inhalant and the suggestion of the cigar-holder inhaler as well as for the pharmacal fact that guaiacol can be made into emulsion with milk of magnesia, I am indebted to Dr. W. H. Woodbury.

With these cases as a text I desire now to make a few remarks in regard to the treatment, hygienic, dietetic, and medicinal, in cases of pulmonary tuberculosis. I wish to emphasize the fact that we are called upon to treat *cases* of pulmonary tuberculosis and not pulmonary tuberculosis in the abstract, and that the careful study of each case is of the utmost importance in outlining the treatment, the treatment of different cases of pulmonary tuberculosis differing fully as much as the treatment of typhoid fever differs from that of pneumonia.

Of equal importance with, if indeed it is not of greater importance than the medicinal treatment of pulmonary tuberculosis is its hygienic management. Many years ago a prominent physician of Boston, recognizing that he had pulmonary tuberculosis, stopped work and drove in a buggy, his wife accompanying him, through the State of Massachusetts, taking a year to do it. He recovered without medication and reared a family of twelve sturdy children. The diary that he kept on this journey is an interesting medical history. He drove in all sorts of weather and through a variety of scenes and a diversity of atmosphere that would go to show that climate in and of itself is not of so great importance as sometimes appears. What was the great factor in his recovery? An out-of-door life in pure air. He avoided the cities in his journey and lived a regular life as to meals and the functions of excretion.

The most important factor in the climatic treatment of pulmonary tuberculosis is not the warmth, the dryness, the rarefaction of the air, but its purity, its freedom from extraneous matter of any sort.

Given a case of pulmonary tuberculosis in the incipient stage, when the normal resisting powers are not too much encroached upon and put the patient in a pure atmosphere, relieved of all worries, and he will get well. When we have a patient who cannot go away then we should, so far as possible, make a good home climate for him. Make him live out of doors all the time, sitting, driving, or walking, as may best be done. Next to the purity of the air, and a factor in producing it, is sunlight. Let him sit in the sunlight and stay on the sunny side of the street when he walks or drives. Let his room be the sunniest and airiest in the house and never have it entirely closed up. If possible have it heated by an open fire and thus procure good ventilation through the chimney.

As regards the personal hygiene of the individual the avenues of excretion should all be kept open to aid in the elimination not only of the normal excreta of the metabolism, but also of the poisons generated in the individual as a result of the infection. Recognizing that the normal excretory function of the lung is greatly interfered with by its diseased condition we must call on the other excretory organs to do its work. Not only the bowels and kidneys, but the skin, which is one of the great sewers of the body, must be kept up to its work. As far as the bowels and the kidneys are concerned they can be depended upon to do their share of the work if supplied with proper kinds of food and a sufficient amount of water. By the sweats which occur in acute infectious disorders and are followed by amelioration of symptoms more or less persistent according to the disease, Nature has pointed out to us that by sweating we can rid the body of many poisonous products. Dr. Charles G. Stockton of Buffalo first suggested to me the advisability of induced sweating as a means of preventing the drenching night-sweats of phthisis. In a limited number of cases this procedure seems to have been successful.

As far then as the hygiene of the skin is concerned in patients who are up and about a full hot-water bath should be taken once or twice a week, or a hot-air or steam bath once a week given in the late afternoon or evening and a tepid or cool sponge once a day given in the morning and followed by brisk rubbing. In the case of patients who cannot take this treatment on account of weakness a tepid sponge bath may be given every afternoon about five o'clock and a hot-air bath once a week. As regards the diet of a patient suffering from pulmonary tuberculosis very few general rules can be laid down. The digestive power of each individual has to be studied; there are the greatest varieties, from a normal gastric digestion to marked increase in hydrochloric acid and excessive motility of the stomach, the food being passed into the intestine in altogether too short a time or in the other direction to absolute achylia gastrica and great deficiency of gastric motility. The foods desirable for these patients are, however, meats, especially rare beef, eggs, baked potato, boiled rice, and boiled young beets; the drinks are water, milk (not to be taken at the same meal with meat), cocoa, and chocolate, and in moderation coffee or weak tea. The mouth should be kept clean with an aseptic wash and the food should be thoroughly masticated. So far as the respiratory system is concerned the nose, pharynx, and larynx should be put in good condition and kept so by the use of sprays and douches if needed.

The subject of exercise, both general and special, I have left for consideration by itself, for in this matter especially is it necessary to study each case. If the patient suffers from hectic fever, is expectorating profusely, or is having hemorrhage, even though slight, or if physical examination reveals marked involvement of one or both lungs general exercises should not be undertaken at all or very gradually and increased very gradually; under these circumstances pulmonary gymnastics should not be indulged in at all. The danger of too great general exercise is from the fact that the oxygenating surface is too limited to supply the demand. The danger of special pulmonary exercises is the possibility of scattering further through the lung the infecting foci through the process of inspiration pneumonia. Cases in which general exercise and special pulmonary exercises are useful are those in which there is only a slight local bronchitis or very slight pulmonary infiltration.

The medicinal treatment of a case of pulmonary tuberculosis is naturally divided into local and general. The local treatment consists in the application of medicinal agents for the purpose of curing or alleviating the morbid state of the tissues. The treatment of laryngeal tuberculosis will not be touched upon. The question arises, Can we reach the bronchial and alveolar mucous membrane with medicinal agents in any way to be of value? Evidently sprays and inhalations are our only means, but sprays rarely reach beyond the vocal bands or at the farthest, the trachea. They are of little use. The same thing may be said of inhalation of solutions of medicaments in the fixed oils, but inhalations of the essential oils seem to reach further and can be kept up almost constantly. Of the various essential oils the oil of peppermint is by far the best; it can be used in the form of the essence and seems to have a direct effect in diminishing pus and lessening cough. The cigar-holder is a cheap and efficient inhaler.

As for the general medicinal treatment, from the reports of many physicians tuberculin and antitubercle serum have been of undoubted value in early cases. In my own hands they have not as yet been successful. As far as my experience goes nuclein, administered hypodermically, is the best remedial agency in early cases. I have several cases of apparent cure from this treatment. Among remedies administered by the mouth, creosote, or some of its derivatives still stands at the head of the list. In the administration of creosote it is important in the first place to secure a pure article, to administer it regularly, always after food, to increase the dose gradually but regularly, carefully watching the urine, as well as looking for gastric disturbance. I have given as much as 2 c.c. at a dose three times a day for three months in this way. The gradual reduction of the dose is as important as the gradual increase in its size, the sudden stopping of the large dose sometimes producing very unpleasant results. The carbonate of creosote has not been of any greater value than the pure creosote, nor has it been better borne by the stomach. The same may be said of the carbonate of guaiacol as compared with guaiacol. In some cases guaiacol can be taken when creosote cannot. When there is a great deal of pus in the sputum terebene combined with the guaiacol is often of value. Balsam of copaiba is also often of great use under similar circumstances. It can be easily administered in emulsion with mucilage of acacia and syrup of tolu. In cases in which there is marked intestinal fermentation or gastric intolerance of pure guaiacol, the benzoate of guaiacol is often tolerated and acts very well. It can be given in doses, gradually increased, of from 0.25 to 1 gram, three times daily, in capsules. In all patients in whom it does not produce gastric or intestinal disturbance cod-liver oil is still our sheet-anchor in the medicinal treatment of phthisis; nothing has yet been found which can take its place. The pure oil can be taken by some individuals, but not by many. An emulsion can generally be made which will be tolerated by the stomach. After taking cod-liver oil for a while, whether pure or in emulsion, the individual generally becomes accustomed to it to such a degree as actually, in many cases, to like it. In these days of proprietary medicines and made-up emulsions, which are said to be strictly ethical, and are said to contain thus and so, whose working formulæ, however, are not published, many physicians are losing the art of prescribing, but really a freshly made emulsion, put up by a competent pharmacist, is much to be preferred to the made-up emulsions that are on the market.

Special symptoms in some cases call for special treatment. I should like to refer briefly to some of these. Pain in the chest is not infrequently a troublesome matter. Its cause should be searched out. If due to pleurisy it should be treated by strapping or dry cupping the chest; if it is a neuralgia it is best relieved by aconitia ointment locally, general treatment, and building up of the general resisting power. Sometimes the local use of iodin in ointment or tincture seems to be of avail, but in such cases it seems to me that time is as much a factor as the iodin. Cough is a necessary concomitant of pulmonary tuberculosis, and should not be too rashly interfered with. A troublesome, irritating cough with little or no expectoration is generally due to pleurisy or some disturbance of the upper air passages, and treatment should be directed accordingly. Cough is best treated by inhalations, such as have been suggested, or by the administration of hydrocyanic acid and chloroform water. Cough is frequently a matter of habit and can be prevented by mental discipline. The administration of cough mixtures containing stimulating expectorants and opium should be avoided as far as possible. It is very seldom that the stimulating expectorant has any place in the treatment of phthisis, and opium and its derivatives are absolutely out of place, except in advanced cases beyond recovery, in which nothing can take their place. To a patient in advanced phthisis opium is truly the great and good gift of God to man. Hemoptysis is best treated by rest in bed and the administratson of morphin and atropin, hypodermically.

The fever of tuberculosis is best treated by the sponging and general plan of treatment already suggested. The use of antipyretics is to be deprecated. Sweats are best combatted by general treatment and the baths and induced sweats referred to, but they sometimes call for special treatment. In my hands nothing can equal atropin in the relief of this distressing symptom.

Of the gastric symptoms requiring special treatment vomiting is the most distressing. Sometimes it is necessary to put the patient absolutely to bed in such cases. Careful investigation of the stomach with the tube is sometimes of value. In severe cases of vomiting in phthisis, however, whether induced by cough or not, large doses of cerium oxalate, 1 gram at a time, are of especial value. Of the intestinal symptoms diarrhea is the most serious. If the general treatment as outlined does not relieve this condition, benzoate of guaiacol is our most useful drug. In the distressing diarrhea of advanced phthisis, however, nothing can take the place of the lead and opium pill.

In closing my remarks I wish to make a plea for

the careful study of individual cases and the use of treatment especially adapted to each particular patient, and the avoidance of routine treatment of cases of pulmonary tuberculosis.

CLINICAL MEMORANDUM.

ASTRAGALECTOMY FOR INVETERATE TALIPES EQUINO VARUS, WITH REPORT OF A CASE.

BY JAMES K. YOUNG, M.D.,
OF PHILADELPHIA;
PROFESSOR OF ORTHOPEDIC SURGERY IN THE PHILADELPHIA POLYCLINIC; CLINICAL PROFESSOR OF ORTHOPEDIC SURGERY IN THE WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA, ETC.

THE patient C. A. J., male, white, thirty-one years of age, a Swede by birth, and a cook by occupation was admitted to the University Hospital July 13, 1898. He was unable to work on account of his increasing deformity. His family history was good and his own health had always been excellent, except for the deformity, which was congenital.

The examination showed a marked talipes equino varus of the right foot. The astragalus was luxated. The gait was peculiar, the knee being turned far inward

FIG. 1.

Astragalectomy. Before operation.

in the effort to bring the foot to the ground. There was contraction of the extensor muscles of the toes.

On July 15th I operated, Dr. Willard having been called in consultation. A complete excision of the astragalus was performed and a division made of the extensor tendons of the toes and also of the tendo-Achillis. The incision was a long curvilinear one, beginning in front of the tendon of the peroneus longus and extending across the arch of the foot to the tibialis anticus. The joint was opened and the bone removed with a dry dissector, great care being taken to prevent injury to the posterior tibial artery as the inner portion was removed.

FIG. 2.

Astragalectomy. After operation.

The foot was brought into proper position and a plaster cast applied.

On July 26th the left foot was found to be deformed in like manner to the right, but in a much less degree. The extensors of the toes as well as the tendo-Achillis were divided and a plaster cast applied. The casts were kept in place six weeks, only being removed to admit of the antisepic washing and dressing of the wounds. On October 4th the following note was made: The patient has been walking about the ward on crutches since September 15th and has walked the length of the ward without crutches. Very little weight, however, can be borne on the right foot. On October 10th the patient was discharged, cured.

This case is interesting not only on account of its extreme rarity, very few surgeons having ever performed this operation in the adult, but because of the excellent and useful joint which results after the operation. The removal of the entire astragalus does not interfere with the motion of the joint. The malleoli adapt themselves to the tarsal bones and the joint is almost as useful as an ordinary ankle-joint. The difference in the length of the limb is from one-half to three-quarters of an inch. Prompt and uneventful recovery from the operation is the usual course in such cases, and the operation is to be considered as equivalent to an amputation or excision at this point, although the operation of astragalectomy is more difficult than either of the others.

MEDICAL PROGRESS.

Differential Diagnosis between Extra- and Intraperitoneal Rupture of the Bladder.—DITTRICH (*Deut. Zeit. f. Chir.*, vol. 50, p. 204) found by percussion over the symphysis pubis of a patient, whose pelvis had been crushed by the wheel of a wagon, a deep box-tone, more noticeable just before catheterization, and which increased after the patient had been catheterized several times. Each time after the catheterization the box-tone changed to a dull percussion-note. The urine came out through the catheter in spurts, due to the clonic contractions of the bladder-wall. Dittrich attributed this box-tone to the escape of air through the catheter, into the tissues around the bladder. As was shown by operation there was an extraperitoneal rupture of that viscus. If the bladder is ruptured into the peritoneal cavity, the air, which may be introduced by a catheter, will not have any effect on the percussion-note, and hence he regards this symptom as diagnostic of an extraperitoneal rupture of the bladder. When the incision was made over the symphysis pubis, air and bloody urine escaped, thus confirming the diagnosis in every particular.

The Plague at Bombay.—The *Indian Medical Record*, December 1, 1898, while congratulating the country on the mild character of this season's plague at Bombay, has this to say about the prophylactic handling of the disease in general:

"The laws of plague have still to be elucidated and in the dark as we are at present, we can only agree with those authorities who tell us that it runs a regular and predestined course, which all human efforts are powerless to check or perhaps even to modify.

"We used to hear a lot about stamping it out. It was at one time a favorite catchword with all plague officials, they know better now and the pet expression has departed from their reports. The most vigorous action on the part of the Bombay Government failed to have any appreciable effect upon the previous epidemics, while it had the ill result of interfering with the social condition of the people and of wearing out their patience.

"Now curiously enough when the most severe of the measures, which were considered an absolute necessity at first, have been abolished and while others have been modified and pared away to an almost invisible tenuity, the plague quietly takes it into its head to depart. All these things are strange and inexplicable paradoxes to the modern sanitarian with his shibboleth of isolation, segregation, and disinfection.

"Unfortunately the low death-rate in Bombay, averaging only 185 per week for October, and less than half of that for November, has not been universal in India, and in some districts there have been over a thousand deaths a week."

Poisons Produced by Animal Parasites.—PEIPER (*Centralbl. f. inn. Med.*, December 17, 1898) states that all the animal parasites contain poison or develop in their metabolism substances which act as such. Even ascaris lumbricoides is by no means so harmless as is generally supposed, and is capable of producing severe symptoms with indications of cerebral irritation. Its devastations are seen, for example, in the West Indies among the black races, and especially among the children. These ill effects are seen not merely in the vicinity of the worms, and cannot be explained by the motions of the latter, nor their abstraction from the diet of nutriment necessary to their host, but they are due to absorption of toxins or leucomains from the intestine. One thing noticeable in the round worm is its peculiar sharp odor, which often causes conjunctivitis in those who busy themselves with its growth in the laboratory.

The presence of tapeworms is occasionally followed by disturbances of vision. The anemia of bothriocepbalus, which is seen in only a few of the patients who harbor this parasite, is due to the action of a poison upon the red blood-cells. The anemia of anchylostoma is also to be explained by the presence of a protoplasmic poison, as the amount of the blood sucked by the parasites could easily be made good by the regenerating power of the system. The fluid in ecchinococcus cysts certainly contains poisonous material since the puncture of these cysts may cause peritonitic lesions, and even the death of the patient.

The epileptic attacks and psychic disturbances which accompany the presence of oxyluria in large numbers cannot be satisfactorily explained upon a theory of mechanical irritation alone. Trichinosis gives the picture of a severe infectious disease sometimes within a few hours of the ingestion of trichinous flesh, and no theory of mechanical irritation produced by the presence of the animal parasites will explain these symptoms. The author believes that all animal parasites contain or produce poisons which may act unfavorably on the nervous system or the blood of the host.

Tuberculosis of the Uterus.—VASSMER (*Arch. für Gynäk.*, vol. 57, p. 301) has had opportunity to observe six cases of tuberculosis of the uterus at the dispensary for women in Göttingen, during a period of ten months, and he regards the trouble as not nearly so rare as do some other writers on the subject. Four of these patients were in the third decennium, while two were older. The symptoms were chiefly pain in the pelvis and sacrum, without hemorrhage or discharge. The uterus was found to be more or less enlarged, according to the extent of the disease. The mucus from the cervix was not found to contain tubercle bacilli. The diagnosis was made by microscopical examination of scrapings from the body of the organ. The treatment was by curetting, and intra-uterine application of tincture of iodin in mild cases, and by removal of the diseased portions of the genital organs in the more advanced cases. The tubes, one or both, were affected in four of these six patients; in the other two, they were apparently free. The results of treatment were satisfactory, the only patient who did not survive being one with extensive abdominal and pulmonary tuberculosis, upon whom nothing more than an exploratory incision was made.

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SATURDAY, FEBRUARY 25, 1899.

NEWSPAPER MEDICAL EXPRESSIONS.

WE are treated every now and then in the daily newspapers to an amusing series of misapplied and misconstrued medical expressions. Whenever some important occurrence calls, in the description of its incidents, for the use of medical terms and medical opinions we are sure to have a fresh display of delightfully unconscious but thoroughgoing ignorance. The recent death of the President of the French Republic has given an excellent opportunity to ambitious newspaper men to make "ducks and drakes" of medical expressions to their hearts' content. Of the tentative way in which the President's medical attendant's name has been spelled and misspelled and dissevered and mishyphened, we shall say nothing. It must be remembered, however, that Dr. Lannelongue is one of the best-known members of the profession in France, and was chosen at Moscow a year and a half ago as the president of the next International Medical Congress.

The Associated Press informed us, the morning after President Faure's death, that he had been suffering for some time from general paralysis. As he had been, until the end, one of the clearest-headed of men, and recognized by his associates in the Government as possessed of the highest practical executive ability, it is easy to see what we are to think of this. At his death, we are told that just before the end "one doctor had drawn the tongue to keep the lungs alive" (sic), while a second held a bag of oxygen to his nose. Equivalent mistakes with regard to unfamiliar court ceremonies and involving the misapprehension of national peculiarities might be forgiven, but medicine is a universal science, and any medical man if consulted would have been able to point out these patent errors. There would seem to be no good reason why modern progressive newspapers should insult the intelligence of a large number of their readers by ludicrous mistakes. The errors are mild and few on this occasion compared to what they can be and have been when the expense of cabling did not prevent an omniscient correspondent from wading far beyond his depth in the waters of medical knowledge.

Blunders such as these would not be tolerated for a moment if they had reference to movements in financial circles or were concerned with parliamentary or political or social happenings. Is there any good reason why the truth should be less precious in medical matters? Our American newspapers, at least, have gotten beyond that stage in their evolution where they can afford to be ridiculous in their methods of presenting news. It is time there was an end of it. Some one with trustworthy medical experience should, on an occasion like this, be consulted, and so save the infliction on an unoffending public of some of the ludicrous medical expressions we now have to bear.

SANITARIA FOR TUBERCULOUS PATIENTS.

WE present this week an abstract from the Fourteenth Annual Report of the Adirondack Cottage Sanitarium of Saranac Lake, N. Y. The report is pregnant with suggestion as to the therapeutic value of sanitaria in the treatment of tuberculosis. To one unaccustomed to the statistics of sanitaria it seems almost impossible that such results as are reported can be obtained in the treatment of that dread disease — tuberculosis. We gave sometime ago an abstract from the Report of the Loomis Sanitarium, and while we thought it well to criticize certain features of the report the general results ob-

tained could only be the subject of gratulatory comment.

Our American sanitaria for tuberculosis are attaining as good results in the treatment of the disease as are claimed for similar institutions abroad. What we want now is more of them, and especially more of them so endowed and supported that the poor, and even the indigent, may be able to enjoy their benefits. The removal of large numbers of tuberculous individuals from the ordinary hospitals, and from among the crowded populations of our cities would be of untold service to humanity by limiting the spread of disease. Since the great majority of these patients can, as the statistics of sanitaria show, be returned to their homes after but comparatively short intervals cured or apparently cured, and no longer the source of infected material, the benefit conferred is twofold.

Drs. Brush and Pryor, at the recent meeting of the New York State Medical Society, each showed by calculation of the annual loss to the State because of sickness and death from tuberculosis, that even from an economic standpoint alone, the establishment of State sanitaria for consumptives would be a magnificently profitable investment. But there is, besides the merely sordid view, the great motives of humanity, and the lessening of the present death-rate from consumption which now carries off, despite hygienic precautions and sanitary measures, something more than one-seventh of our population.

The bill providing for the establishment of at least one great State sanitarium in a suitable place in the Adirondacks has been presented to the State Legislature. It thoroughly deserves the effective sympathy and unfaltering cooperation of all who are interested in decreasing the suffering of humanity. It is no new and untried experiment that is to be put into action. The treatment of tuberculosis in sanitaria has forced itself by its results upon the medical profession in the Old World, and the favorite charity of the crowned heads of Europe has become in this last few years the establishment of such institutions for their poor people. Scarcely a State in Europe, however small, but has one of them, and many have a number, and all are planning for new ones, the results of those at present existing having been so satisfactory. Let us hope that the sovereign State of New York will prove as mindful of the wants of her people, and that the proverbial ungratefulness of democracies shall not be exemplified by the inaction of her legislators in so important a matter.

THE SCHOOL DENTIST.

THE School Dentists' Society is an association of dental surgeons in England whose object is to supervise school-children's teeth and see that they are not allowed to decay seriously before receiving proper attention. The *British Medical Journal* remarks that the suggestive statistics it has collected and that have been recently made public in the address of its president, amply justify its existence. As the result of investigation by the school committee appointed by the British Dental Association some years ago, it was announced that the teeth of more than eighty-five per cent. of 10,000 school children of the average age of twelve years needed skilled attention because of premature decay. Similar statistics have been obtained as the result of investigation along other lines.

The School Dentists' Society has been calling parents' attention to these conditions and seems to be arousing parental consciences in the matter. The *British Medical Journal* says that one at least of the large English public schools has taken definite steps toward caring for pupils' teeth. A system has been instituted by which the mouth of every boy is examined at entrance and the actual condition of his teeth charted. A copy of the chart is sent with a note from the head master to the parent or guardian calling attention to pathologic conditions existing and asking that they be remedied before the boy returns for the next term. The charts are kept up to date by subsequent examinations and are filed away for ready reference at any time while the boy is at school. Every Saturday (school holiday) throughout the year a dentist is in attendance to treat such cases as parents desire to have dealt with at school.

This system has been in operation for the past five years and the masters and parents are eminently pleased with the results. The resident medical man writes emphatically of the good that has accrued to the general health of the children and the greater attention paid to this matter by parents. Not the least of the benefits obtained has been "the foster-

ing in each pupil of the (often too dormant) principle of personal dental hygiene with all its attendant and far-reaching advantages."

As the neglect of the teeth in early years often leads to an immense amount of suffering in later life this English idea of dental interest in school children seems a most commendable one. The entrance to the primæ viæ is important too, because of its relations to the digestive tract. The application of the best hygienic principles here cannot fail to benefit greatly the general health. Our American dentists are so well known for enterprise that we are a little surprised to find that they are anticipated by our Anglo-Saxon cousins across the water in a matter like this; we know of no effort that is being made in this direction in this country. The idea of taking care of school-children's teeth is an excellent one. It is next in line for attention, now that the importance of the school physician has come to be generally recognized, and the prevention of the insidious devolopment of pathologic conditions during early years is looked upon as the best pledge of a generation of healthy adults and a vigorous old age.

THE RELATIVE VALUE OF MURMURS AND THE POSITION OF THE APEX-BEAT IN HEART-DISEASE.

NOT long ago in a court of law in a reasonably large town, a doctor on the witness-stand in a suit for damage said that he could very soon tell whether the plaintiff had a heart-lesion or not if he were allowed to *listen* to his heart. The answer is one that is characteristic of most medical men. The generally accepted idea is that a murmur is pathognomonic of heart-disease, and its absence indicative of freedom from disease. There is, of course, the well-known fact that in extremely anemic cases, especially in young people, a systolic murmur may be hemic in origin, but apart from this murmurs and heart-lesions are corelative factors.

One of the best diagnosticians in Europe, especially in thoracic diseases, Professor Gerhardt of Berlin, is known not infrequently to begin a clinical demonstration in this way: "The apex-beat is not displaced, percussion to the right of the sternum shows that the heart-dulness does not extend in that direction. The patient, therefore, either has no heart-lesion, which is extremely probable with the physical signs mentioned, or, if a heart-lesion be present it is not one that the physician need bother his head about; it needs no treatment, in fact, meddlesome treatment would do more harm than good."

There is, in the matter of cardiac diagnosis, an axiom in the internal-medicine clinics at Vienna that comes usually as a distinct surprise to American students who go there. It runs somewhat this way: Be very careful about diagnosing the presence of a valvular heart-lesion unless the apex-beat is displaced. Murmurs may come and murmurs may go, an American with poetical aspirations once said, but the apex-beat has an enduring significance that must not be neglected. Systolic murmurs at the apex without displacement of the apex-beat or accentuation of the second pulmonary sound are phenomena that may be regarded with entire indifference. These may form a large part of the cases in which the murmurs disappear after treatment, and they are published as cases of cured valvular heart-lesions.

The lesson is an important one. Murmurs are at times difficult things to recognize and locate as to time and place; the apex-beat is the most easily recognizable of physical signs, and yet it is of the greatest significance and importance in deciding as to the existence of a heart-lesion and its indications for treatment. There are, of course, the diastolic murmurs that are absolutely pathognomonic of a valvular lesion, but even in the presence of these the position of the apex-beat is of much more importance as far as regards the prognosis and indications for therapy in the case than any nice distinctions as to the character, pitch, and time of the murmur.

THE UNITED STATES ARMY RATION.

So much has been said during the past few months about the manner in which our soldiers were fed during the recent war, and the question of providing food during the next few years for large bodies of troops in distant parts is so important that we have felt called upon to give considerable space to the recent discussion upon this subject at the New York Academy of Medicine.

The discussion was shared in by men who had large practical experience in the recent campaigns of Cuba and Puerto Rico; by men who know also the

nutritional qualities of the United States Army ration and its adaptability to the requirements necessitated by the most varying circumstances of climatic, meteorologic, and telluric conditions. The arraignment, by Majors Seaman and Woodbury, of the army ration as supplied during the recent war would seem to be amply justified by the almost universal experience with it as a source of intestinal, and mental, irritation. Old regular army officers, however, insist that this was not due to the army ration itself, which has been finally adopted after a great deal of study and practical experience, but to the failure of the transportation department to carry all that was committed to it. Commanding officers can, under ordinary circumstances, so vary the diet of their men by drawing alternates for certain articles and by supplying from the company fund things easily obtainable in the country where they are, that there need be no complaint of want of variety. In fact troops have been successfully maintained upon the present army rations during many years both in the bitter winters of Dakota and in the enervating heat of Texas. The real difficulty seems to lie not in any actual deficiency in the army ration itself, but in the failure to properly provide and prepare it.

Too much dependence was placed on precedent in the management of army affairs; too much confidence on the results of the practical experience of the Civil War. There was a clinging to antiquated methods that has resulted seriously. Let us hope that the dearly bought lesson will not be without avail in the colonial military experience upon which we are about to enter.

ECHOES AND NEWS.

Appointment at the Chicago Clinical School.—Dr. J. R. Pennington has accepted the Professorship of Rectal Diseases in the Chicago Clinical School, formerly the West Side Post-Graduate and Policlinic.

Congress Accepts Dr. White's Gift.—On February 17th the Senate at Washington passed a joint resolution accepting from Dr. Octavius A. White of 1011 Madison avenue, New York City, three famous historical paintings as a gift in pious remembrance of his father, John Blake White, the artist.

A Physician's Gift.—Dr. Edward Murphy of New Harmony, Ind., has given $42,000 for the town's public library. Several years ago he provided $30,000 for the erection of the library building. The doctor is eighty-six years old, and desires, he says, "To dispose of my property without the intervention of courts and juries."

Nurses for Consumptives.—The Rev. Father James O. S. Huntington, Superior of the Order of the Holy Cross, a congregation of celibates in the Episcopal Church, having their mother-house at Westminster, Md., proposes the establishment of a new religious sisterhood, whose life-work would be to nurse consumptive patients.

Resolutions upon the Death of Dr. McGillicuddy.—At a recent meeting of the Faculty of the N. Y. School of Clinical Medicine resolutions were adopted expressing the great loss sustained by the School in the death of their esteemed colleague, as well as by the community at large in the demise of one of its most useful citizens and a representative medical man.

The Health Department, City of New York.—For the week ending February 11, 1899, there were reported 170 cases of measles with 12 deaths, 186 cases of diphtheria with 34 deaths, 16 cases of laryngeal diphtheria (croup) with 5 deaths, 181 cases of scarlet fever with 13 deaths, 1 case of smallpox with no deaths, 35 cases of chicken-pox with no deaths, 252 cases of tuberculosis with 160 deaths, and 11 cases of typhoid fever with 5 deaths.

Dr. Cushman Resigns.—Dr. William F. Cushman, for many years Treasurer of the Board of Trustees of the New York Academy of Medicine, has sent in his resignation because of continued ill health that makes it impossible for him to fulfil the duties of the position any longer. His resignation was accepted at the meeting of the Academy of Medicine on Thursday, February 16th, with regrets at the circumstances that occasion it. His successor, until the next regular election, will be chosen by vote of the members of the Council at their next meeting.

Disease from Telephones.—President Murphy of the New York City Board of Health, believing that telephone transmitters are a means of spreading disease, has ordered inspectors to examine the public telephones. The inspectors will thoroughly cleanse the transmitters and receivers with cotton, which will then be sent to the Bacteriological Department of the Board of Health. Should it be found that telephones are likely to disseminate disease organisms, an order will be issued requiring daily disinfection of the instruments by the telephone companies.

The Health Board's Sales of Antitoxin.—On February 7th a hearing on Assemblyman Collier's bill to repeal that section of the Greater New York Charter which allows the sale by the Health Department of its surplus antitoxin took place before the Assembly Cities Committee. James McKeown, Dr. Love, and H. L. Russell, all of New York City, appeared to advocate the passage of the bill. Mr. Russell declared that the Health Department's dealings in this lymph were so profitable that the health authorities could not be induced to try other methods or other lymphs.

Death During Tooth-Extraction.—On February 5th, at

Meriden, Conn., John E. Smith, aged thirty-five years, and apparently in good health, called on Dr. L. T. Doolittle to have sixteen teeth extracted. Dr. E. W. Delcher was present, and gave chloroform, an amount "not exceeding a teaspoonful." During the extraction of the second tooth the patient collapsed and died. His death was pronounced due to strangulation. It is well to remember that it is never safe to begin operative procedures in chloroform narcosis until the patient is completely anesthetized.

The Medical Society of Seattle, Washington.—At the tenth annual meeting of the King County Medical Society, recently held at Seattle, Washington, the following officers were elected for the ensuing year: Dr. Montgomery Russell, president; Dr. R. W. Schoenle, vice-president; Dr. Wm. L. Ludlow, secretary; Dr. C. B. Ford, treasurer. The stated meetings are held on the third Monday evening of each month. The society has a strong and representative membership among the medical men of the city, the society standing for all that is best in the interests of medical science in a county where such influence is strongly needed.

A New Convalescent Home.—A small convalescent home for women and children has recently been opened in Brooklyn, on Harway avenue, near Gravesend Bay. Although organized and in part supported by some German ladies, it is open to patients of all nationalities as far as accommodations will permit. Admission is upon the recommendation of one of the managers and a physician's certificate. The charge in the small wards is three dollars a week, while five dollars is charged if a patient has a room alone. In certain circumstances a patient is taken free if unable to pay this small amount. Application may be made to the matron, Mrs. V. Hollweg.

Female Nurses in the Army.—A bill has been introduced into the United States Senate providing for the employment of female nurses in the Army, in number not less than one-half of one per cent. of the enlisted men. It authorizes the establishment of a Nursing Commission, composed of the Secretary of War, the General Commanding, the Adjutant-General, the Surgeon-General, and three trained nurses to be selected by the President. This Board is for the general supervision of the service. All nurses employed must be graduates of hospital training-schools. A superintendent is provided at a $3000 salary, and an assistant-superintendent at $2000. The nurses' salary will be $40 a month.

A Scientfic Food Wanted.—The "embalmed-beef" controversy now pending in military circles moves a writer in the New York *Sun* to quote "a noted physician" as stating that "a graham gem and an apple contain every element necessary to the sustenance of the human body." This statement induces the *Sun* correspondent to ask why an army cannot be fed without the danger arising from the use of doubtfully prepared beef. No doubt, rations of the sort mentioned above would meet the approbation of Mr. Richard Harding Davis, who has been, it is said, "in a state of mind" because marshmallows were not served to the troops before Santiago, and because the men in the trenches could not be manicured.

New Editor of the Journal of the American Medical Association.—The Board of Trustees of the American Medical Association met February 17, 1899, at the Sherman House, Chicago, for the express purpose of selecting an editor for the *Journal*. The result of balloting was the unanimous election of Dr. George H. Simmons of Lincoln, Neb., editor of the *Western Medical Review*, Secretary of the Nebraska State Medical Society, and of the Western Surgical and Gynecological Association. The salary of the editor has been increased from $4000 to $5000 per annum, but according to a resolution adopted by the Board, Dr. Simmons is compelled to devote his entire time to the interests of the *Journal*. Dr. Simmons became a member of the Association in 1897. He is a well-trained, well-informed medical journalist, and a racy, vigorous writer. He is also a man of great executive ability, and a good organizer.

Death Probably from Hydrophobia.—Walter McCann, aged twenty-two years, of Newark, N. J., died recently from what was supposed to be hydrophobia. He was bitten in the right leg and in the thumb of the left hand on New-Year's night. Two days later he felt a stinging sensation in his left arm, and, becoming alarmed, consulted a surgeon. The medical attendant did not consider the condition serious; as a matter of precaution, however, he cauterized the wounds. Ten days later, McCann was unable to walk, but was helped to get to the City Hospital where his wounds were cauterized once more. After this a consultation of physicians decided that the case was really one of hydrophobia. A series of paroxysmal seizures set in which gradually became more frequent and severe. A sudden noise, or a draught of air, or even a slight unexpected touch, caused him to writhe and twist in agony. It is said that the sight of water had the same effect. This is popularly considered a pathognomonic sign of hydrophobia, but the sight of water has no direct etiological effect in producing the convulsions. Death was in this case due to exhaustion from the number and severity of the convulsions during the few last days.

Words, Words, Words.—We have been not a little amused and interested at an editorial in the *Medical Era* of Chicago under the above caption. The editor takes certain recent exaggerated claims of our young Philadelphia contemporary as to the number of words it gives its readers for their subscriptions as compared with those given by other medical papers. The *Era* institutes another form of comparison. The matter taken by the *Philadelphia Medical Journal* from other medical papers constitutes 1,081,600 of the 1,927,400 words it furnished its readers for the year, leaving less than 850,-

000 words of original matter supplied during the same period. As pointed out by the *Era*, this is, of course, considerably less than what is given by the MEDICAL NEWS. The whole affair, of course, is a juggling with statistics and word calculations, and the employment of the general methods of the advertising agent rather than a dignified appeal to the profession. It is not *quantity* of medical matter the profession wants. We are deluged with medical printed matter. We have not time to read a quarter of what we would like to read. What the profession wants is matter of special interest to the practitioner, carefully selected and boiled down as much as is consistent with its being properly and easily understood. We bow our acknowledgments to the *Era* for the compliment as to the value of our original matter as compared with our self-laudatory contemporary. We shall continue to give as far as possible what is best and most practical in general medical literature, put in such form as to be interesting and useful to the busy practitioner.

Mortality in New York in 1898.—According to the Bulletin of the State Board of Health for December, the mortality of the State of New York for the year 1898 was 120,972 from all causes; this is 3894 more than in 1897, which was a year of unusually low mortality, the average of seven preceding years. The delayed returns, not reported in the Bulletin, numbered 733, making the death-rate per thousand population 18.10, the average of the past ten years being 18.25. The death-rate of the Maritime district was 20.00 against 18.90 in 1897, there having been about 3500 more deaths; of the other districts there is no material variance from the rate of the previous year. Last year the saving in mortality was in the Metropolis. The infant mortality (under five years) was greater by 2300 than in 1897, though relatively decreased, constituting 30.2 per cent. of the total, against 32.5 last year, and an average of 33.5. The zymotic mortality constituted 13.6 per cent. of the total, against 14.0 last year and an average of 17.5. The decrease is confined to the urban communities, some of the rural districts showing a relative increase over last year. Among zymotic diseases there was an increase in the mortality from cerebrospinal meningitis in all but the Central districts; in typhoid fever in all parts of the State including the Metropolis, amounting to about 450 deaths; in whooping-cough by 300 deaths, the increase being limited to the Eastern districts; and an increase (by 1500) in diarrheal mortality from last year, though not beyond the average. Diphtheria caused 2620 deaths, the fewest of any year on record, being less by 1500 than in 1897 and less than half the average yearly mortality from this cause. Consumption caused 13,000 deaths, which is with slight variation the mortality of every year. There were 2500 deaths from grip which is less than the mortality of either of the eight preceding annual epidemics. Acute respiratory diseases had the average rate of mortality, that of other local diseases showed a moderate increase. The mean average temperature for the year was 48.5 degrees above the normal, and the total rainfall (average of State) 44.5 inches, or four inches above the normal.

SPECIAL ARTICLE.

FOURTEENTH ANNUAL REPORT OF THE ADIRONDACK COTTAGE SANITARIUM.

THE fourteenth annual report of this institution, just issued, is full of evidence of how much can be accomplished for tuberculous patients by treatment in a sanatorium and presents besides an eloquent picture of how much can be done for very deserving people unostentatiously and without appeal to the general public. The total number of "hospital days" at the sanatorium for the past year was 30,912 or 4116 weeks. The total receipts from patients, including $1071.57 received from the Trustees of the Free Bed Fund, were $24.563.91. The running expenses were $32,435.35 or over $7500 more than the receipts from patients, this excess being paid for out of the contributions to the General Fund. The cost per week for each patient was $6.75 or $1.75 more than the regular charge per patient per week which is $5.

The results of treatment were most encouraging. The number of patients treated at the sanatorium during the year was 227 of whom 83 are still at the institution. Of the 144 patients who are the subject of report, 38 were discharged apparently cured, 44 with the disease arrested, 39 improved, 14 unimproved or failed and 6 died; while 3 remained less than a week and do not enter into the therapeutic statistics.

There were 34 patients who remained less than three months and of these 6 were apparently cured, 7 left with disease arrested, 13 were improved, 1 died, and only 3 were unimproved or got worse; 110 patients staid at the sanatorium from three months to over sixteen months, an average of over nine months. These are considered under three heads, incipient, advanced, and far-advanced cases. Of the 36 incipient cases, 27 were apparently cured; in 7 the disease was arrested, 1 was improved and only 1 was not benefited by stay at the sanatorium.

Of 48 advanced cases 9 were apparently cured; in 21 the disease was arrested; 11 were improved and 6 were not benefited, and 1 died.

Of 26 far-advanced cases, in 3 the disease was arrested, 13 were improved, 6 were not benefited, and 4 died.

With these statistics before us, it is interesting to note the definitions of the terms employed by Dr. Trudeau as given by himself in the report.

Incipient.—Cases in which both the physical and rational signs point to but slight local and constitutional involvement.

Advanced.—Cases in which the localized disease process is either extensive or in an advanced stage, or where with a comparatively slight amount of pulmonary involvement the rational signs point to a grave constitutional impairment or to some complication.

Far Advanced.—Cases in which both the rational and physical signs warrant the term.

Apparently Cured.—Cases in which the rational signs of phthisis and the bacilli in the expectoration have been absent for at least three months, or in which there is no expectoration at all; any abnormal physical signs remaining being interpreted as indicative of a healed lesion.

Arrested.—Cases in which cough expectoration and bacilli are still present, but in which all constitutional disturbance has disappeared for several months, the physical signs being interpreted as indicative of a retrogressive or arrested process.

The proof of the hygienic value of sanatorium treatment, besides the fact that it removes the affected individuals as sources of infection from the midst of crowded centers of population, is to be seen especially in the disappearance of bacilli from the sputum. In 99 out of 110 cases bacilli were present on admission; in 33 cases they disappeared not to return. One-third of the power for harm of the tuberculous patients treated was absolutely removed.

Dr. Trudeau is doing a great, good work at the Sanitarium, and deserves the sincerest congratulation for it. The unobtrusive, unostentatious character of the work renders it all the more surely a bit of the sincerest philanthropy. The utter unselfishness that has characterized the directors' management of the institution is known to but few, but highly appreciated by them, and will at some time be a fruitful source of inspiration to sincere philanthropists of the generation to come. It is a sincere pleasure to be able to record that the work continues to be supported by voluntary contributions, and that certain improvements in the plant have been made possible recently. The cottages are to be heated by hot water instead of stoves, as heretofore. This will enable them also to have hot baths. Five of the cottages are already connected with the hot-water system, and have their bath-rooms. A large new cottage has been presented to the Sanitarium by Mrs. A. A. Anderson, and will be ready for occupancy before the end of the winter. It is fully furnished, and combines all the improvements suggested by past experience.

A characteristic trait of the thoroughly practical thoughtfulness so typical of the management of the institution is contained in the following paragraph from the president's report: "As most of the patients coming during the winter months are not supplied with sufficiently warm clothing to enable them to carry out effectively the open-air plan of treatment during the coldest season, the institution has acquired by gift some twenty-five heavy fur coats, which are given out to patients in need of them for a nominal rent, just sufficient to pay for storage and repairs on these most necessary garments."

CORRESPONDENCE.

MASSAGE BY TRAINED NURSES.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—The MEDICAL NEWS in a recent editorial advocates massage by trained nurses, saying that they ought to be able to carry out the instructions of physicians with regard to massage and that they should be trained for this purpose by a competent teacher, even if they have to forego less useful instruction.

Allow me say that physicians themselves ought to know enough about massage to show their nurses what to do in individual cases. How many physicians know anything about the practical application of massage? One who has recently been my patient put it as one in a million. More than that are conversant with massage. A surgeon who has also been my patient said he though that not more than one doctor in five hundred knew anything about the use of massage. This is more nearly correct. And yet almost every physician sets himself up as an authority on this subject without either study, instruction or practice.

How about the teachers of massage? They are usually selected from those who have had scant training and not time enough to show whether they are competent to practise it. Worse that that—at one of the Training Schools for Nurses connected with one of the large hospitals in New York an escaped convict, who was simply an acrobat and knew nothing at all about massage, was employed for a while to give instruction in massage. He soon earned for himself the *sobriquet* of the biggest liar in New York. Not long after that he was succeeded as a teacher in the same place by a graduate from a penitentiary of London whose sole claim to honor was that of having translated part of a French book into bad English and posing as the author. One of the recent medical dictionaries quoted him, his theft, and his bad English. The editor was promptly notified but made no reponse.

Now there is a first-class man in New York who is not only a gentleman but also a physician and masseur of wide repute. I am credibly informed that the profession in New York almost completely ignore him. The unwelcome truth of this whole matter is that the majority of physicians both in this country and abroad endeavor to get the cheapest ignoramuses to rub their richest patients until the patients demand better. Is this the golden rule? I have already dealt with the unpleasant subject at some length in the *Boston Medical and Surgical Journal* of October 8, 1896.

DOUGLAS GRAHAM, M.D.

BOSTON, MASS., January 20, 1899.

A PRONOUNCED CASE OF HYDROPHOBIA.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—I notice in a recent number of the MEDICAL NEWS a request that any one knowing anything about a case of suspected rabies should report the same. By way of introduction, I will say that up to the time of seeing the case I take pleasure in reporting I was very sceptical concerning the existence of this disease. My professors in school nearly all doubted it, and especially the professor of surgery, who openly avowed his belief in the non-existence of hydrophobia. He attributed deaths resulting from the bites of supposedly rabid animals to nervous shock and fright.

Again, during my nine-years' experience as a practitioner just preceding the time of seeing this case and having this teaching always in mind, I never met a doctor of much experience without drawing him out on the question as to whether or not he believed in the existence of this disease. I had never met one who had ever

seen a case, and it is hard to find one to-day who has. They claimed to have invariably found the sufferer to be a hysterical subject, and the case eventually proved to be true hysteria. So I concluded that there was, in fact, no such disease, the medical authorities to the contrary notwithstanding; and when people persisted in rushing to a madstone for the cure of the bite of hydrophobic skunks, I was inclined to smile and say, "What fools these mortals be!" In regard to these skunks, I desire to say right here, after an active experience covering twenty-six years on the Western frontier, that I enter my protest against the belief in the existence of rabies in a skunk (*Mephitis Americana*) which has not the disease as a result of having been bitten by a previously rabid animal. Animals die from this disease very quickly; they do not run about, like these skunks, a perpetual menace to man and beast alike; and dogs, where the *Mephitis Americana* abounds would be rapidly exterminated, and an occasional man or other animal would certainly develop this disease. There seems to be an abiding enmity between the dog and the skunk, and the dog, instead of catching one that had this disease, would have to be caught, for he knows.

During the summer of 1878 Mr. S., about eighty years of age, came to a house where I was stopping to get his dinner. He was then on his way to have a madstone applied to a wound resulting from a dog-bite through his thumb. Learning that I was a young doctor, he asked me what I thought of it and what he should do for it. I answered that the best authorities recommended the immediate excision of the part bitten, or the removal by amputation of the wounded member when this was possible, but since a week had passed since he was bitten this procedure would now be of doubtful efficacy. I reassured him as much as possible by saying that it was very doubtful if there had ever been a case of hydrophobia in America. His wife told me that she and the old man were living alone, and that when the old gentleman went to feed this dog at noon one day, just a week before, the dog had suddenly reared up and had bitten him through his thumb. Immediately thereafter, Mr. S., thinking the dog fierce because of confinement, had loosed him, when the dog at once jumped the fence and took the road toward a small town about a mile away. It was known that he had bitten several animals encountered on the way—dogs, hogs, and cattle—two or three of which had already developed peculiar symptoms, and some of these had died; hence, their determination to test the efficacy of a madstone. I told her that only a small percentage of the animals bitten by rabid dogs ever developed hydrophobia, if there was such a disease, and that I had no more confidence in the efficacy of a so-called madstone than I had in a piece of ordinary sandstone. They went on their way, and several days later I saw them on their return journey. They said that because turpentine had been applied to the bite the madstone would not stick.

I thought no more of the case until a runner came to ask me to visit Mr. S. to see if I could determine what was the matter with him. This was just eighteen days after he was bitten. On arriving at the house I found the patient sitting bolt upright in bed, his face intensely congested and his eyes fairly glaring. They said that he had but little fever, but had peculiar convulsive seizures, which at times nearly choked him to death. He was fairly free from delirium. He was closely hemmed in by a number of country women, whom I with difficulty persuaded to move in order to give him breathing space. I sat and watched several minutes without letting him know I was present, for obvious reasons. I then approached him, spoke to him, counted his pulse (which was eighty, and full), looked at his tongue, and then assured him I had only casually dropped in to see him. Shortly afterward I walked back toward the door a few steps and requested a lady to hand me a cup of water and a saucer. I then stepped out in front of him, and drawing his attention poured the liquid from the cup into the saucer, when he immediately had a most horrible convulsion, which completely frightened me out of my wits, because of its severity and the strange expression on his face. I was absolutely afraid of him, as old and helpless as he was, and moved so that I had one or two women between us. When he recovered from this I waited half an hour, and then regretted the production of a repetition of one of these convulsive seizures by the same process. I then gave a very positive prognosis in the case, saying that I regarded the trouble as hydrophobia, and that the patient would surely die within three days. He succumbed at about 3 A.M. on the twenty-first day after the receipt of the injury. Dr. R., now of Bowie, Tex., entered a protest against my diagnosis, claiming that I had made a mistake, and proving this by the ability of the patient to take liquid nourishment on the very night of dissolution. I assured the people, who officiously came to tell me these things, that one of us was wrong, and the facts in the case, according to our best authorities, and the further fact that the patient died "promptly and on time," as the doctor himself was aware, made it almost positively certain that I was right. I also read from the text-books the assertion that the ingestion of fluids other than water was not always attended by convulsions.

A few years since I lived in the town of Montague, Tex. One night a dog, very evidently mad, visited nearly every residence in town and bit a great many other dogs. The following morning it was pursued and killed, and many of those bitten were also destroyed. At least half a dozen, which were spared at the time, developed rabies later and were killed.

In conclusion, I believe that there is such a disease, and that Mr. S. died from its effects, because, First, he was bitten by an animal which, biting other animals, produced as a result something exactly like hydrophobia. Second, that the man, after a proper period of incubation, developed true rabies and died from the effects of the disease. I believe that there is such a disease, because, First, the dog referred to in the second instance must have had it, for dogs madly fought her when she came in contact with them, and showed no desire to cultivate her acquaintance, although her actions were lascivious in the

extreme. Second, every symptom in her case pointed to the fact that she was mad. She made no noise on being shot, and it took many ordinarily fatal wounds to kill her. Third, other dogs developed symptoms which caused the owners, however much they thought of the dogs, to kill them.

Since it is communicable to dogs and other animals, it must be communicable to man also. There were many people, of course, like Dr. R. in the first instance, who did not and would not believe the trouble rabies.

J. E. STINSON, M.D.

CHICKASHA, I. T., January 30, 1898.

MEDICAL EDUCATION AND STATE BOARD EXAMINATIONS.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—Professor James Finlayson's article on "Medical Education" in the *Edinburgh Medical Journal* (pp. 344-348, October, 1898) comes as a happy message to advocate modern methods of laboratory teaching as opposed to didactic lecturing. To this is added the satisfaction that there has lately sprung into existence in New York City a medical school whose keynote is practical teaching. The medical educational system has happily passed beyond the ermine and purple style of Trousseau, with his unbending dignity and pedantic phraseology. It is the ideal, though unfortunately not always the practice of the growing medical educational class to-day, that the mind is best trained through deductions arrived at by itself and that the duty of the teacher is not to arrange in well-ordered tables, etc., what others have worked out, but to direct the student's mind into these channels, *keeping the conclusions for the student himself to arrive at* and leading him back from by-paths which he is too prone to follow out to a blind ending. In America we are learning that students must come to our medical schools with minds trained to think systematically, but it is a lesson yet to be learned by many institutions, and herein lies the difficulty of adopting the purely practical method of teaching in American schools. It is, however, the right method, and in order to have practical proof of its value the writer is keeping records of the source of early training of members of his classes with the object of drawing, in a few years, conclusions as to the value of thorough mental training prior to beginning medical studies. It is absurd that we should expect to turn out men of international mental force in medicine so long as we attempt to train them in methods of both thought and medicine during four short years. The principles of medicine alone are too profound for untutored minds to grasp and we have passed the time when institutions should be allowed to turn out men who have learned only not to do harm.

Another and very serious condition which must, sooner or later, be met, is the impossible methods of examination employed by the majority of State medical boards, methods unpardonable and long ago abandoned by the European schools. I refer to the examining in four days, morning and afternoon, on subjects which have required four years to master. What is quickly learned is quickly lost. Is it a feat of mental gymnastics we wish to see if the men can perform, or do we wish to ascertain if these candidates are so trained that they will only not do harm but intelligently do good? If the former is sought the present system is admirably adapted to this end, if the latter, it is an acknowledged and absurd failure. There is not a physician to-day who, unless he has pursued surgery or held the position of teacher of anatomy, does not acknowledge that he could not pass an examination upon this subject. The same is true of physiology, chemistry, physics, materia medica, and histology. Why then should not these subjects be passed off at an earlier examination of the Regents instead of allowing them to rob of their legitimate time those more vital subjects of medicine, surgery, obstetrics, gynecology, pathology, and therapeutics? There should, for example, be three or even six examinations instead of one, failure to pass any one of which should debar the candidate from taking the next. In this way the standard could be raised and each subject could be soberly and adequately treated, and there would be acquired such fundamental knowledge that though the detail of the subject may have been forgotten, yet the foundation upon which the details could be readily built would remain. These examinations could be distributed throughout the four years of the medical course.

This is none other than the conjoint system of the Royal Conjoint Examining Board of England, and while we may hesitate to adopt many medical methods of our English brethren, yet in matters of education we must acknowledge that they have solved the problem.

Thus, with the proper medical training before beginning the study of medicine and four thoughtful studious years, interspersed with rigid examinations on a reasonable number of subjects at a time, the graduate would go into the medical world feeling not that he had run a gauntlet the doing of which he could not explain, but that every step of the way has been thoroughly and intelligently taken, and that he is able to compete with the graduates of any institution in the world.

C. N. B. CAMAC, M.D.

NEW YORK CITY, January 31, 1899.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

THE DISGRACEFUL CONDITION OF OUR STREETS—THE AFTERMATH OF THE BLIZZARD—HEALTH-BOARD RESTRICTIONS AS TO MEASLES—PROFESSOR STEPHENS CONVICTED OF ARSON—HOMEOPATHIC SOCIETY MEETING—FIFTIETH ANNIVERSARY OF ST. JOSEPH'S HOSPITAL—PERSONAL NOTES—HEALTH STATISTICS.

PHILADELPHIA, February 21, 1899.

THE newspapers have been teeming with communications relative to the disgraceful condition of our streets which, as a result of the storm, are covered with filth, mud, slush, and heaps of half-melted snow. The Citizens' Municipal Association has entered a formal protest against the signing of contractors' warrants whose business it is to keep the streets clean and a number of business men have formed a committee to lay before the

mayor the matter of this neglect. While the officials claim to be doing all that it is possible to do the seas of mud and slush do not seem to diminish, and it is the same old story of derelict duty and official indifference. Drs. S. Solis-Cohen, Judson Daland, and many other physicians have called attention to the dangers incident to such conditions as prevail, but as usual the warning is unheeded and perhaps the solution of many of our municipal problems, so far as they relate to public health will be found some day after a huge epidemic has awakened us from our stolid indifference and then the day of reckoning for our corrupt and dishonest officials will be a mighty one. The aftermath of the storm with its melting snow and slush, causing sewers to overflow and "backwater," is greatly to be feared, and despite the fact that the health board has again issued notices to boil all drinking-water we may look for a further increase in the number of cases of typhoid.

During the storm the police and fire departments accomplished wonders and many who would otherwise have starved or frozen to death were cared for by the men of these departments. Milk was practically the only food which it was impossible to obtain and for twenty-four hours many suffered from lack of it. The modified milk laboratory was unable to supply its baby customers for thirty-six hours.

The Sanitary Committee, to whom the Board of Health referred the matter, has not yet reached any decision in regard to Dr. Lee's suggestion that measles be included with scarlet fever and other infectious diseases in regard to control by the Board. Dr. Lee reported to the Board that while 114 deaths from scarlet fever were reported last year, there were 234 from measles, and he strongly urged the inclusion of measles in the list of contagious diseases, and especially as serious and permanent sequelæ are so common after the infection.

George H. Stephens, at one time a professor in Lafayette College at Easton, was declared guilty of arson on last Saturday. It will be remembered that he was accused of having set fire to Pardee Hall in December, 1897, when the building was entirely destroyed, causing a loss of about $200,000 to Lafayette College. The burning was done as an act of revenge for fancied wrongs he had suffered at the hands of Dr. Warfield, president of the college, and the plea was made by his friends that his mind was unbalanced. This failed to save him, however, and his conviction later became a matter of course.

The Homeopathic Medical Society of Philadelphia held its February meeting at the Lafayette Hotel, Monday evening, the 20th. A paper was read by Dr. W. G. Steele as to the methods best suited to improve the system, which was discussed by several of the members.

The fiftieth anniversary of the founding of St. Joseph's Hospital will be celebrated with special religious services, and a special contribution on Washington's Birthday. The number of cases treated in the out-patient departments, as well as in the wards, has increased enormously during the past five years at the rate of nearly 1000 cases a year.

Dr. Jacob M. Da Costa, Emeritus Professor of Practice of Medicine at Jefferson Medical College, has been elected a member of the Board of Trustees of the University of Pennsylvania.

The total number of deaths occurring in Philadelphia during the week ending February 18th, as reported at the Health Office, was 527, which is a decrease of 42 from last week, but an increase of 78 over the corresponding period of last year. Of this number 161 occurred among children under five years of age. The total number of new cases of contagious diseases was 351, reported as follows: Diphtheria, 51 cases with 10 deaths; scarlet fever, 13 cases with 1 death; typhoid fever, 287 cases with 38 deaths.

OUR LONDON LETTER.

[From Our Special Correspondent.]

ASININITY OF THE GENERAL MEDICAL COUNCIL—DIVERSITY OF MEDICAL DEGREES IN GREAT BRITAIN—DEATH OF THE NOTED PATHOLOGIST, JOSEPH COATS—LONDON'S PROPOSED NEW WATER-SUPPLY—TO SUPPRESS STREET NOISES.

LONDON, February 11, 1899.

THE medical *cause célèbre* of last week was the verdict of the Queen's Bench in the case of Hunter *vs.* Clare appealed. It will probably be remembered that some months ago the Penal Committee of the General Medical Council brought an action against a Mr. H. K. Hunter for using professional titles which did not legally belong to him. There seems to have been an extraordinary amount of confusion not to say muddle-headedness in the minds of this cumbrous and secret-session star-chamber council as to just what Mr. Hunter was guilty of. At least two members of the council have publicly stated in a special letter to the journals that they were assured that he was an unregistered practitioner practising under that flimsiest of all qualifications, an American degree, and was to be prosecuted accordingly. The mouse which was actually born of the ridiculous mountain, however, was an action accusing him of the awful crime of using the title "physician" upon his door-plate, when he was only an L.S.A. (Licentiate of the Society of Apothecaries) and another *separate one* alleging a similar misuse of the sacred name "surgeon." The judge found him guilty upon the first count and fined him $25, whereupon the second was politely dropped. The Society of Apothecaries righteously indignant appealed the case. The appeal has just been heard and the decision of the lower court as to the question of right affirmed, but the fine cancelled on the ground that Mr. Hunter had used the title innocently and in good faith, believing he had a right to it.

And all this disgraceful fuss over a door-plate! Mr. Hunter was a registered practitioner, fully qualified, and nothing whatever was even suggested against his competence or his honesty. Worst of all, as if to bring the pettiness and meanness of the official mind into full relief, the poor gentleman died just after the verdict had been given against him, with the gratuitous slander of the Penal Committee still resting upon him. Altogether the pro-

fession is thoroughly ashamed of the part it has been made to play in the matter and indignant with the committee for the public disgrace it has brought upon the body which it misrepresents. The episode will add greatly to the already strong feeling of dissatisfaction with both the make-up and the methods of the General Medical Council.

Such ridiculous proceedings could of course only have occurred under the antiquated and intolerably complicated system of medical qualifications in vogue here. There are no less than *nine* different degrees or qualifications which entitle a man to practise medicine in England. Three different "Licentiates of the Royal College of Physicians" (L.R.C.P.) of London, Edinburgh, and Dublin; the same three kinds of membership in the Royal College of Surgeons (M.R.C.S.; M.R.C.S.E.; M.R.C.S.I.) making six in all, then M.B., M.D. and L.S.A. Of all these only M.D. entitles its possessor to the prefix "Dr.," although by courtesy this is extended to Members and Fellows of the College of Physicians, and the last one does not even entitle its owner to style himself "physician and surgeon." What wonder that even the conservative *British Medical Journal* is urging the advisability of a uniform or even simple degree.

The Home Secretary has declined to grant the petition signed by 6000 of the Peculiar People, asking him to modify the sentence of Senior, who was condemned to three-months' imprisonment for allowing his child to die of bronchitis without calling a physician.

The Prince of Wales has announced his intention of being present at the delivery of the Hunterian oration this year at the Royal College of Surgeons and will dine at the College in the evening. The oration is to be delivered by the President of the College, Sir William MacCormac, who attended the Prince after his recent fracture of the patella, and H. R. H.'s presence at the function is interpreted as a graceful expression of his gratitude to both Sir William and the medical profession.

English pathology lost another of its standard-bearers last week, scarcely more than six weeks after the untimely death of Kanthack. Joseph Coats, Professor of Pathology in the University of Glasgow, and well known for his original and valuable work, died at his home in the North after an illness extending over nearly three years. He was fifty-two years old and had devoted his entire medical life to pathology, but had only been pathologist in the University for eight years.

The admirable new scheme of an adequate water-supply for London, from the mountains of Wales, is being pushed vigorously by the County Council. Vitally important for the public health as the change is acknowledged to be on all hands, the present water companies are fighting it tooth and nail, even stooping to such ludicrously contemptible methods as sending a swarm of agents into the districts which are likely to be bought up for water-basins to stir up the farmers and peasantry against the scheme and rake up cases of defect or mistake in the notices issued to landowners by the County Council. In this the notorious multiplicity of the John Joneses, the Evan Evanses, and the Ap. Morgans in Taffyland has aided them greatly and the council has had several notices of illegal procedure brought against it on the trifling ground that its original papers were served upon the wrong Owen Owens. The "Water-Lords" have also brought scores of the farmers up to London to protest before the County Council, but as the eagle-eyed reporters have discovered that they are being entertained royally and given passes to the theaters, etc., their formal "opposition" excites more laughter than anything else. In fact the ridiculous scheme has recoiled on its inventors and the latter have not hindered the great sanitary reform in the slightest by their selfish and contemptible maneuvers.

From various quarters in London are coming urgent demands for the physical inspection at regular and frequent intervals of the children in public schools by a physician. This is demanded both as a safeguard against infection, parasites, etc., and also as a means of detecting defects of sight or hearing and of deciding whether children are in proper physical condition for their work. In a few school districts medical men have volunteered their services to the School Board and the results have been so good already that there is a demand for the appointment of regular school-physicians. In Belgium the children are rapidly but carefully inspected every ten days and the system works admirably. Here is another opening for our overcrowded profession.

The *Spectator* and several other papers are having an animated discussion as to whether "catching cold" is not really an infection and the wise men among the laity are rushing into the fray with great enthusiasm. The infectionists have rather the best of it so far, as they can cite the complete freedom from "colds" of Nansen's party in the Polar ice and their prompt epidemic of coryza on return to civilization and the curious "strangers' cold" at St. Kitts which sets half the inhabitants to sneezing every time a ship touches at the port and for weeks afterward. Moreover, as one of them acutely points out "colds" are almost invariably caught in churches, theaters, railway carriages, etc., where bad air and microbes abound and seldom in the open country or when camping out.

The London Society for the Suppression of Street Nuisances held its annual meeting last week and its principal onslaught was directed against the horrible noises which make the streets a Bedlam. The church bells, the muffin bell, the cries of hawkers, and above all the organ as she is ground were inveighed against and it was darkly intimated that this fiendish concatenation of sounds was what was really driving the workingman to drink. Fully half the noise in the city streets is idiotically unnecessary and should be stopped in the interests of both comfort and health. The dawning of a better day is already in sight for a woman in East Westminster has just been fined under the new Public Nuisances Act for keeping a crowing cockerel which would disturb the neighbors in their beauty sleep. If only the midnight cat can be brought within the operation of the Act we may hope to rest in peace.

The use of "dust destructors" on the furnace plan is spreading rapidly in England. Many of the provincial

towns have them in successful operation and several of the London districts as well. They consume street sweepings, factory refuse, house and stable litter, everything in fact that is too solid or bulky to go down the sewers. In one London destructor not only is the dust and refuse destroyed and the smoke therefrom consumed but enough heat generated to run the parish dynamo for electric-lighting. We have got past "dust to dust" and "dust to electric light" seems the revised version.

The *British Medical Journal* recently published a letter from a medical missionary in China, in which he states that the infamous custom of compressing ladies' feet is frequently productive of necrosis of the metatarsals, ulcers and fistula. He has treated a number of these women by removal of sequestra, curetting, and packing with gauze.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

BLACK-WATER FEVER—RECOVERING FROM A BROKEN NECK—ON THE CHOICE OF ANESTHETICS—FOUR INTERESTING CASES OF PERFORATION OF A ROUND ULCER—AN INSTRUMENT FOR CRUSHING AND WASHING OUT GALL-STONES — TREATMENT OF STRICTURE OF THE ESOPHAGUS FROM BELOW UPWARD—SUDDEN DEATH AFTER PARTURITION—AORTIC ANEURISM DOES NOT CAUSE HYPERTROPHY OF THE HEART—NATURAL RESULT OF ADHESIONS OF SEROUS SURFACES.

AT the Pathological Society of London, December 20th, CROSSE and PACKES reported a case of black-water fever which occurred in a young officer who had served fourteen months in Nigeria. The attack began apparently as an ordinary attack of malaria, but after two days the symptoms of black-water fever appeared. There were pyrexia, jaundice, green vomit, and hemoglobinuria, and a slight amount of albumin in the urine. The blood contained hematozoa of the estivo-autumnal type. The patient improved after the administration of quinin but had a relapse a few days later. The quinin was increased in quantity and the relapse was quickly recovered from. As the symptoms of black-water fever came on in this patient six hours before he received quinin the theory that black-water fever can be caused by quinin must be laid aside. Two other theories are possible: One is that the disease has no connection with malaria, and the other is that the disease is a complication of tropical malaria. If the first alternative is true it must be admitted that the disease can develop in England or can have a latent period of more than four weeks as the patient had left Africa more than a month before his symptoms developed. The speakers were inclined to regard black-water fever as a complication of malaria since it attacks only those persons who have had malaria in a tropical climate.

At the session of January 17th POTTER showed the cervical vertebræ of a man who died of old age at the age of eighty-two years. The interesting point was that he had received a blow from a falling wall twenty years previously. His head was forcibly flexed on his chest and he was unconscious for two days. There was loss of power of the right arm and leg. He was kept in bed with his head fixed for four months and ultimately recovered entirely, though there always remained a prominence at the back of the neck and the chin almost touched the sternum. Section of the spine showed that the cervical vertebræ had been crushed together, and the second, third, and fourth were at right angles to the lower three. Compression of the bodies of the vertebræ seemed to have saved the cord from stretching.

At the Society of Anesthetists, December 16th, WHITE discussed the choice of an anesthetic. Upon etherized patients reflex shock due to the operation does not appear. This is not true of chloroform. Prolonging an operation under an anesthetic is to be deprecated. While children and the aged take chloroform better than the adult, still children sometimes succumb to it. Ether, if carefully given, is well borne by children. He regarded advanced age, independent of lung disease, as no insuperable objection to ether. In chronic lung troubles he used ether if possible, but chloroform for acute pulmonary troubles. In cardiac disease, save in aneurisms, ether was his choice. In abdominal surgery he used ether, giving it very lightly. In brain surgery he preferred chloroform with or without morphin. For operations about the mouth he commenced with gas or ether to stimulate and alleviate shock and then changed to chloroform.

SILK agreed with some of the points of the speaker but advocated the A. C. E. mixture for operations upon children between the ages of three and twelve, and for adults over sixty; also in very stout persons or those affected with chronic pulmonary or renal troubles. He also used this mixture in operations upon the head and neck.

At the Glasgow Medico-Chirurgical Society, December 16th, STEVEN showed specimens from two cases of perforating ulcer, one of the duodenum and the other of the stomach. Both patients were young women who were attacked, while engaged in their duties, with intense epigastric pain. The former died in collapse in twenty-four hours; but the latter rallied the first day, and went about her work, but a second attack of pain occurred one day after the first one, and in forty-eight hours she was dead. There was general peritonitis in both cases. Steven thought that the first attack of pain in the latter patient was due to a partial rupture of the ulcer, the second attack to its complete perforation.

RUTHERFORD mentioned a case of perforating ulcer in the stomach in a girl, aged twenty-five, in which the diagnosis was promptly made and the ulcer sutured within eight hours of the attack of pain. The patient did well for a time, but died three weeks later of general peritonitis. There were many old adhesions, and at the autopsy there was found a second ulcer in the posterior wall of the stomach, which had also perforated.

At the Birmingham Branch of the British Medical Association, November 25th, SHORT showed the stomach of a girl, aged sixteen, who was first seen fourteen days after an attack of epigastric pain and vomiting. She had had pain after meals for a year previous, but had never vomited blood. The physical signs pointed to air and

fluid beneath the diaphragm. On draining the cavity through the ninth space in the posterior axillary line fetid pus was evacuated. She did very well for some three months, but the temperature was never satisfactory. At the end of this time she suddenly developed acute pleuropneumonia of the right side and died in a few days. At the necropsy some curdy pus was found in the crevices between the stomach, liver, and diaphragm; otherwise the abscess cavity was healed, and the ulcer closed by firm adhesions to the spleen.

At the meeting of December 8th TAIT showed an instrument which he had repeatedly used with success in breaking up concretions left in the ducts after cholecystotomy. He found that wherever a stone had traveled this instrument would follow without risk. It consisted of a small scoop, out of the end of which was cut a notch so that an instrument after the fashion of a double-quill drill was formed. The addition of a tubular handle through which a stream of water was forced greatly assisted in the removal of the *débris*. The success met with by Mr. Barling and others in freely laying open the ducts and removing the stones entire was alike gratifying and surprising, but, for his own part, he would feel safer in leaving the ducts intact.

BARLING showed a patient, aged two years, who had swallowed sulphuric acid and acquired a stricture of the esophagus. Frequent attempts were made during the next two months to pass bougies through the stricture, but they all failed, even under an anesthetic. The stomach was, therefore, opened, and a fine bougie was passed from below upward, and a string was drawn through. By means of this string the stricture was sawed until it would admit a No. 13 bougie. This was left *in situ*, one end being brought out of the mouth. The incisions in the stomach and abdominal wall were both closed. The after treatment consisted in the daily passage of a No. 16 bougie. There was still a great tendency to contraction, but the child was improving in general health and able to take solid food of all sorts.

At the Liverpool Medical Institution, December 15th, CAMPBELL reported a sudden death occurring twelve days after parturition. The patient was a primipara, aged forty. The perineum was torn and sutured, and it healed by first intention. There was insomnia for four days. The temperature never exceeded 100° F. On the seventh day there was slight twitching of the muscles of the face and limbs, followed by a brief period of unconsciousness. On the twelfth day the patient died suddenly while taking a cup of tea. The only pathological condition found at autopsy was a thrombosis of the basilic artery. Many cases of sudden death ten to fourteen days after labor have been without autopsy ascribed to pulmonary thrombus.

At a meeting of the Royal Medical and Chirurgical Society, January 10th, CALVERT read a paper on "Aortic Aneurism as a Cause of Hypertrophy of the Left Ventricle." A search through the records of St. Bartholomew's Hospital for the last thirty years showed that autopsies had been performed upon 124 subjects who had aneurism of the arch of the aorta. In 68 cases there was no hypertrophy of the left ventricle, while the hypertrophy could be perfectly explained by other causes in 47 of the remaining cases, and could probably be so explained in the remaining 9 others. There was, therefore, no evidence in these pathologic records that aneurism of the aorta causes hypertrophy of the left ventricle.

LAZARUS BARLOW said that the records of St. George's Hospital for the past two years bear out Calvert's statement. In eight out of thirteen cases of aneurism of the ascending or transverse arch of the aorta, it was expressly stated that no hypertrophy was present. In the remaining five cases the hypertrophy was accounted for by aortic regurgitation or granular kidney.

At the Harveian Society of London, January 5th, MARSH read a paper on the "Subsequent History of Cases in Which Adhesions Have Formed in the Joints, Peritoneal Cavity, and Elsewhere." Adhesions, if not too extensive, tend to become absorbed. He mentioned a typical case of a middle-aged woman who, after peri-uterine inflammation, suffered so much pain that an exploratory laparotomy was performed. The intestinal coils were firmly matted together, and nothing was attempted. Two years later the abdomen was again opened in order to remove an ovarian cyst. It was observed that almost every trace of adhesions had passed away. The natural tendency to the absorption of adhesions gives the key to the treatment of many joints. Cases of adhesion in joints should be divided into three classes: In the first group are placed those cases of adhesions due to an inflammation neither severe nor prolonged. Such adhesions soon disappear spontaneously. If the inflammation has been more severe or prolonged the adhesions are so extensive and firm that they will not disappear of themselves. The treatment should be to break up the adhesions under an anesthetic, and to follow this with passive motion and massage. In the third group are the cases in which long acute inflammation has destroyed the joint surfaces, and the joint is practically converted into a scar. To break up the scar tissue is useless, as it will simply form again. In the great majority of tuberculous cases, at whatever stage, manipulation is not advisable, nor even safe.

MANDERS remarked that the cases of light inflammation which Marsh had spoken of were really not inflammatory at all, but simply instances of traumatism. Adhesive inflammation due to microbic infection is a totally different condition, in which attempts at manipulation always fail. He explained this on the theory that the toxins dissolved the endothelium of the joint.

For Fetid Breath. — BAYER thinks that chronic nasopharyngeal affections are the principal etiologic factors in this condition. In women who suffer from it at their menstrual periods congestion and increased secretion of the nasopharynx can be demonstrated. The trachea is usually affected as well. When the diagnosis is made secure by examination, Bayer recommends intratracheal injections of carbonate of creosote, using 8 to 16 minims of a fifty-per-cent. solution, slightly warmed, in an intralaryngeal syringe. There is no irritation produced, and the result gained is most satisfactory.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held Thursday Evening, February 2, 1899.

THE President of the Academy, DR. WILLIAM H. THOMSON, in the Chair.

The paper of the evening was read by DR. LOUIS LIVINGSTON SEAMAN, Surgeon-Major of the United States Volunteer Engineers, and its subject was

THE UNITED STATES ARMY RATION AND ITS ADAPTABILITY FOR USE IN TROPICAL CLIMATES.

Dr. Seaman considers that the matter of diet for our army in the new conditions which recent events have created for it is one of the first and most important things to be thought of. English reports of the difficulties encountered by their armies in tropical climates declare that the ill health of the soldier is due to three factors—unsuitable eating, drinking, and clothing. Some even claim that the effect of the climate itself is secondary to these. We are about to enter on a period when United States soldiers may be called upon to serve under the greatest extremes of climate. Take for instance, the most recent weather reports obtainable as to the state of the temperature in various parts of our domain in these last few days. In Alaska 50° below zero, in Santiago 80° above, in Manila 90°, in Havana 104° above zero. It is evident that a very different provision for diet and clothing is necessary in these various places with a temperature difference amounting to 154°. If two ships are being fitted out, one for an equatorial, the other for an Arctic voyage, it is evident that they must be provisioned and provided for in other ways quite differently, yet the law directs that the army serving under these different climatic conditions should have the same rations. Physiologically, we know that a diet full of nitrogen is proper for the North, but will be overheating and irritative at the South.

The United States army daily ration is as follows: Fresh beef 20 oz., or salt beef 22 oz., or bacon, or pork 12 oz.; bread 18 oz., potatoes 16 oz., peas, or beans 2.40 oz., or tomatoes 5 oz.; rice 1.60 oz., sugar 2.50 oz., coffee 1.60 oz., and salt 1.25 oz. It is clear that the ration thus outlined is entirely unsuitable for tropical climates. Much more vegetables and much less meat are required. There is in hot climates very little craving for meat. Nature in each zone supplies the products which are most suitable for animal consumption in the special region. At the frozen north where heat-supplying food is the main need, there are no vegetables to speak of, and the animals are clothed by Nature with a covering of fat that makes their meat, when used as food, especially calculated to produce heat. In the tropics Nature supplies an abundance of vegetables and fruit that are satisfactorily nutritive, but are not heating, while in the temperate zone there is the proper mixture of these dietetic elements that is suitable for the midway character of the climate, and its calls for heat-producing materials. Nature has even provided in the different seasons in the temperate zones the food most suitable for each one. Young green vegetables in the spring time when much heat is not needed as an adjunct to the animal diet of the winter time, vegetables and fruits in abundance in the summer and autumn when nutrition but not heat is most needed by the system; while she provides an exclusively animal diet in the winter time.

The British have realized this in India, and have supplied the common soldier with one-fourth less meat and one-fourth more vegetables when serving under the Indian sun. Tommy Atkins is the greatest meat-eater in the world, but he has taken kindly to the change realizing that it is for his good. Even with this reduced amount of meat, however, army inspectors declare that too much meat is consumed for the health of the soldier in India.

Our own trouble in the tropics at Santiago and in Puerto Rico, during the late campaign, was not any lack of food in quantity, though the emaciated appearance of our soldiers on their return led to many false stories to this effect, but was due to a mistake in the quality of the food furnished us. More than one-half the regiment was under the weather in a week with symptoms of gastro-intestinal irritation. To the intense relaxation produced by the hot moist climate, there was added the constant irritation of an extremely unsuitable diet,—fat salt meat, tinned beans and tomatoes that had began to ferment. Resistive vitality was lowered, hyperemia, and incipient inflammatory conditions of the intestinal mucosa set up by irritation, and the intestine prepared for the successful invasion of pathogenic micro-organisms. It is probable that with the body juices in normal condition and the intestines not so predisposed to infection by irritation most of the soldiers would have escaped the typhoid epidemic, despite the almost universal prevalence of its specific bacillus. Could there have been a change of rations when the irritative intestinal conditions were first observed most of the after sickness would have been avoided. As it was we owed whatever alleviation we had in this matter to the thoughtful munificence of private individuals who, for two months, supplied us with fresh milk, and to the generous supplies of the Red-Cross people that proved a veritable blessing.

There was no lack of drugs, though this has often been said in the newspapers, at least, none that I saw. What was needed was not drugs but diet. Hospitals got best results that were able to give an absolute milk diet as I have shown in an open letter in this month's *Century*. Besides this dietary treatment one other thing would have saved life, the preparation of the soldier for his experience in the tropics by a diet, for some time before, suitable for the climate he would have to endure.

There was a striking similarity, clinically, about all the cases of intestinal disease, and the autopsy revealed a striking uniformity of lesions. A congested liver, a hyperemic intestinal mucosa, covered with a pale tenacious mucus, and congested Peyers' patches that were often prominent and inflamed looking. Nothing specific, however, above all no ulcerative lesions of Peyers' patches pointing to typhoid. This confirmed the clinical diagno-

sis and the negative Widal reaction in these cases. We were almost as much at a loss for the immediate cause of death after the autopsy as before it. We seemed to be in the presence of a new undescribed form of intestinal disease. The etiology of it was not some new microbe with a long scientific name, but a salt-fat-meat-pork-hard-tack-dried-bean-diet in a tropical clime.

Salt-meat rations are, in English experience, extremely liable to cause intestinal trouble. In the first Burmese War one-half of the soldiers who made the campaign fell victims. In other parts of the Indian service as many as 700 out of 900 have been known to be on the sick-list as the result of unsuitable diet. Not only salt meat but an excess of fresh meat will have the same result. Laveran tells us that in Northern Africa attacks of intestinal trouble among the men could often be connected with stolen mutton.

It is plain then that the present United States Army ration must be modified to be made suitable for our men when on service in the tropics. Even the non-meat portions of it are unsuitable. The canned and dried beans are objectionable because they so easily cause irritative fermentation processes in the intestine in hot weather. Nearly every issue of them was followed at Santiago by a marked increase of diarrhea. It was very different with the small dark native bean, the *frijole*, which proved easily digestible. Canned tomatoes were also unsuitable, and they do not replace as they are claimed to do the fresh tomatoes, which are besides plentiful and easily obtained.

The requisites of an army ration are that it should be non-irritating and easily digestible and then should be easily portable. These conditions the present ration does not fulfil. The new ration should be more flexible than the present one seems to be. At present there is too much meat allowed. We are far ahead of other countries as to the meat ration allowed our soldiers. The German soldier, the best trained fighting machine in the world, gets but 5⅓ oz. of fresh meat, or 4⅖ oz. of salt meat daily, but makes up for it by getting 79 oz. of vegetables. He gets only one-fourth as much meat, but more than double the amount of vegetables supplied to our soldiers. The Russian soldier gets 7 oz. of meat and 48 oz. of vegetables. The Italian, 7 oz. of meat and 37 oz. of vegetables. The Belgian, 8 oz. of meat and 61 oz. of vegetables. It is evident then that a change must come in the direction of reduction in the meat supplied and increase of the vegetables.

The beef and salt meat might, with advantage, be cut down one-half and farinaceous foods added to supply their places. The meat should be procured fresh from local sources, or if it has to be shipped should be shipped unkilled. This is not a difficult matter, and there is no other way to save loss and prevent illness from the consumption of a tainted meat, since refrigerator beef spoils with extreme rapidity as soon as removed from cold-storage in the tropics. Cereals should be added to the diet, especially hominy, and the present allowance of rice should be at least quadrupled. The hardy Japanese soldiers live almost exclusively on rice. The Greeks were magnificent soldiers and yet lived to a large extent on lentil soup. The spirit of Leonidas' little band of Spartans despite this meager diet shows that valor is not solely a function of commissary beef. One very important matter besides the diet is its preparation. No food, however good or suitable but can be spoiled in the cooking. The Lord made good food and the devil made bad cooks. Inefficient incompetent cooks were responsible for a good deal of sickness. The Government should establish schools for camp cooks. No measure would do more for our army in the tropics than this.

I have gone into this subject somewhat in detail because the last report of the army inspectors says there is no improvement in the United States Army ration that can be suggested as the result of recent experience. I venture to think that certain things need to be improved, and that the method of the improvement is not far to seek.

DISCUSSION.

MAJOR J. M. G. WOODBURY said he thought that Major Seaman had the very right end of a very good stick. and was perfectly justified in using it as he did. He had not overestimated the causes he deemed he saw at work, and he was not rash in stating his conclusions. It is perfectly clear that our present ration will not do in the tropics. The suggestions as to hominy, rice, and vegetables are excellent, and are thoroughly in accordance with the results of his own observations, and these articles may be transported practically as easily as those now supplied.

As to the cooking, very often in our late war it was unspeakably bad, and even that wonderfully accommodative subject, the United States Army Volunteer, was unequal to it. Major Woodbury then described very humorously some of his experiences in performing his duty as inspector, and especially in the cooks' department. Among the regulars in the cooks' realm he found every thing in excellent order, tins clean and scoured, materials well protected from dampness and insects, and a suitable place for everything. Among the volunteers, as a rule, he found everything just the opposite. Accumulations of grease on the inside of vessels, soot on the outside, flour allowed to become damp and ferment, vegetables unprotected from flies and insects, and very little attempt at order. Uncleanliness in the cooks' department was responsible for a large share in the difference of morbidity among the regulars and the volunteers. This was an important item since, under his own observation, while but twelve per cent. of the regulars were sick from twenty-five to thirty per cent. of the volunteers were laid up.

COLONEL WOODRUFF said that with much of Major Seaman's address he was in accord. The difficulty was not, however, with the ration. The United States Army ration was not as had been claimed an iron rule admitting of no exceptions, least of all did it consist of only the list that had been discussed this evening. There were a hundred things nearly that might be drawn by commanders, as alternates for the articles mentioned. The list as given was only meant to be a general guide

as to the things usually required, and the amount of money allowed by the Government to be spent daily for each soldier. To those who knew its possibilities the United States Army ration was most flexible. This was why the decision had been made that there was no suggestion to offer for its improvement. Experience would show that it was sufficiently flexible even to be made suitable for troops in the tropics.

MAJOR KILLBOURK said that army men had been treated to so little of the army ration in Cuba and so much of it in the daily papers since their return, that their feelings were in quite a whirl. The trouble in Cuba was not quality of food but quantity, *i.e.*, insufficiency of food and that not due to the fact that insufficent food was supplied by the Government, but that transportation could not be secured to bring it to the men. As to all diet the great question is its adaptability to the individual and the individual's personal equation as to foods. He had seen a soldier dying of inanition, though liberally supplied with the hospital's best, appeal for corn-pone to which he had been accustomed at home and proceed to get well on it.

MAJOR BELL said that they lived not on but in spite of their rations at Santiago. Some of the material furnished was most unsuitable. Green coffee was distributed on the fighting-line at San Juan Hill. As a rule too much coffee was drunk. His men were not sick till the rainy season had set in. Some of them craved bacon and salt meat. After the distribution of rations of fresh meat many of them improved. There was a craving for sweets and for rice and hominy that should and could have been satisfied rather easily. Molasses should form a part of the ration at all times.

MAJOR JARVIS said that the Anglo-Saxon was not made for the tropics. He would need a new alimentary canal for that. Farinaceous foods instead of meat did not comprise the answer to the problem. The cellulose in them was irritating. The customs of life among the people made the rations of other countries different from ours. As to our soldiers they demanded meat and all the habits of a lifetime made them crave it, and they must have it. The English have learned the lesson after generations of experience and they are arming their colonists. This is the real solution of the question of keeping an army in the tropics.

Owing to the lateness of the hour Major Seaman in summing up said only that he hoped that the perfectly free discussion of the evening would carry its due weight and that some of the things said might be practically suggestive to those who had the matter in hand.

THERAPEUTIC HINTS.

For Hysteria.

℞ Ac. arseniosi . . . . gr. ss
Ferri sulphatis } aa
Ext. sumbul } aa . . . gr. xx
Asafetidæ . . . . . gr. xl.

M. Ft. pil. No. XX. One pill three times a day after meals.

Treatment of Lupus Vulgaris —UNNA has found the most efficient application for this affection to be butter of antimony, and that its action can be better localized by the simultaneous use of creosote and salicylic acid.

℞ Antimonii chloridi } aa . . . 3 ss
Acidi salicylici }
Creosoti
Ext. cannabis indicæ } aa . . . 3 i
Lanolini . . . . . 3 ii.

M. Sig. External use.

In order to prevent pain from the immediate action of the caustic Unna employs cocain mixed with an inert substance as follows:

℞ Cocain hydrochlorat. . . gr. viii–xvi
Magnesii carb. . . . 3 iiss.

M. Sig. Powder the part, then cover with a layer of moist absorbent cotton, and retain in place fifteen to twenty minutes, using light pressure.

After cocainizing, place a thin coat of the caustic salve on the affected area, and cover with zinc-oxid plaster. The application is renewed after twenty-four to forty-eight hours, according to the amount of secretion. The nodules disappear rapidly, while healthy granulations form.

Treatment of Ulcerative Stomatitis. — TORDENS finds nothing so effective as chlorate of potash internally, which he prescribes as follows:

℞ Potassii chloratis . . . gr. xv–xxx
Syr. aurantii . . . . 3 iiss
Decoct. cinchonæ . . q.s.ad. ℥ ii.

M. Sig. Two teaspoonfuls every two hours.

He recommends, further, a mouth wash of boric acid or sodium benzoate solution, or swabbing with a solution of zinc sulphate, or potassium permanganate, the latter rendering good service in the strength of 1–1000, applied several times a day on absorbent cotton.

Good general hygienic conditions are of course necessary; the food (liquid) should contain albumen and be given cold, as iced milk or cold bouillon, in order to diminish heat and pain in the mouth.

For Exophthalmic Goiter.—DIEULAFOY employs ipecac in most cases as a remedy for the vascular erythism.

℞ Pulv. ipecac. . . . . gr. xxx
Pulv. digitalis fol. . . . gr. xv
Ext. opii . . . . . gr. iv.

M. Ft. pil. No. L. Sig. Two to four pills a day.

The ipecac is never to be pushed to the extent of causing vomiting, but slight nausea is allowable. It is to be continued for at least several months. Valerianate of ammonia may often be given with good effect, and hydrotheraphy is recommended for an indefinite period.

For Lead Colic.—Prescribe 10 grains of potassium iodid to be taken three times a day, followed by a tablespoonful of the mixture here given, according to *Brunton*.

℞ Magnesii sulphat. . . . . ℥ i
Ac. sulphur. dil. . . . . ℥ i.
Aq. dest. . . . . ℥ iv.

M. Sig. One tablespoonful three times a day.

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ORIGINAL ARTICLES.

SOME PRACTICAL POINTS IN THE PHYSICS OF STEAM STERILIZATION.[1]

BY THEODORE DUNHAM, M.D.,
OF NEW YORK.

NOTHING that I shall present to-night is particularly new. I invite your attention not to newly found principles but to a property of steam which is too little appreciated by the manufacturers of our sterilizers, and by many of our profession. As a result, much of our apparatus of the most perfect workmanship fails to give the sterilization indicated by the gages and thermometers. I shall say nothing of the bacteriology of sterilization, but confine myself to the physical principles involved in getting an equal temperature throughout a steam sterilizer, the lamentable shortcomings of most sterilizers, owing to lack of recognition of these principles, and the very simple and practical means by which the errors can be avoided.

Let me first state a few facts, and then rehearse a few experiments which demonstrate them: Steam has a much lower specific gravity than air; air is a poor conductor of heat; air will not condense except at an extraordinarily low temperature and high pressure. Steam will condense at once on coming in contact with a cooler body, and give up its latent heat to that body. This makes it a perfect vehicle for conveying heat. The lack of this quality of condensation makes air an extremely poor vehicle for conveying heat.

When sterilization is about to begin in a sterilizer, the sterilizer contains, besides the objects to be sterilized, air. If the temperature in the sterilizer is to be made the same in every part of it, within a reasonable time, the air must be entirely got rid of and replaced by steam. Owing to the great difference in specific gravity between steam and air the air will be soonest got rid of if due regard is paid to this difference of specific gravity.

Let me now rehearse my experiments: For the first series of experiments I constructed a cylinder of tin two feet nine inches high and six inches in diameter. It had four openings for thermometers, placed one above the other at intervals of nine inches. These openings received thermometers through rubber stoppers. At the top and bottom were two more openings, provided with perforated stoppers carrying glass tubes. The apparatus was suspended vertically. The steam used was generated in a tin can over a gas flame. The same amount of flame was used in all the experiments. In describing the experiments the uppermost thermometers will be designated *a*, the others, in order from above down, *b*, *c*, and *d*. Readings were begun and time taken when any thermometer reached 40° Centigrade.

Experiment I.—Steam was introduced at the *top*, and the glass tube at the bottom served as the only vent. In 1 minute *a* rose from 40° to 82° C. In 1½ minutes *b* was at 40° and 30 seconds later had risen to 89° C. In 3¼ minutes *c* was at 40° and 30 seconds later had risen to 96° C. In 4¾ minutes *d* was at 40° and 30 seconds later had risen to 78° C. At the end of 9 minutes all four thermometers stood at 99° Centigrade and remained there. A moment later steam began to issue from the vent at the bottom.

Experiment II. — Steam was introduced at the *bottom*, and the tube at the top served as the only vent; *d* first indicated 40° C. and then, at very short intervals, *c*, *b*, and *a*. At the end of one minute all had reached 40° C. They all rose together, and at any given moment registered almost exactly the same temperature. As the temperature got higher the differences became less and less. At the end of 36 minutes all four thermometers stood at 99° C. and remained there.

Experiment III.—The upper opening was closed. A stopper with two holes was placed in the opening at the bottom. Steam was introduced through one opening, and the only vent was through the other. All four thermometers reached 40° C. within one minute of each other. They rose with almost perfect equality. At the end of 32 minutes all had reached 99° C. and remained there.

Experiment IV.—The opening at the bottom was closed. A stopper with two holes was placed in the upper opening. Steam was introduced through one opening and the only vent was through the other. Thermometer *a* was the first to reach 40° C. One minute later it had run up to 90° C. *B* stood at 40° C. and one minute later had run up to 90° C. In 6½ minutes *c* stood at 40° C. and went slowly up. In 20 minutes *d* stood at 40° C. and went very slowly up. At the end of an hour *a* and *b* both stood at 99¼° C.

[1] Read before the Harvard Medical Society of New York, January 7, 1899. For discussion, see page 285.

c at 99° C., and *d* at 73° C. With this arrangement of inlet and vent the replacement of air by steam was evidently extremely slow in the lower part.

The above four experiments show conclusively that the quicker the air is eliminated and replaced by steam the faster the temperature will reach the maximum for saturated steam at the given pressure (in this case, the atmospheric pressure), and that this will be quickest accomplished when gravity acts to the best advantage.

With the inlet above and outlet below the air could freely flow out and suffer the least possible dilution with the steam which entered above. The thermometers rose serially from above down, and with a sudden run of the mercury as the bulbs were left by the falling air and enveloped in the descending column of steam. Only air escaped below until the thermometers were all high. In 9 minutes they all registered 99° C.

In Experiment II. the steam entering below and the vent being above the steam swirled up through the cylinder and a mixture of steam and air escaped from the vent. The mixture of steam and air must have been nearly uniform throughout for the temperatures advanced almost simultaneously. The air was expelled by fractional dilution and only at the end of 36 minutes did all the thermometers stand at 99° C.—four times as long as it took in Experiment I.

In Experiment III. the inlet and vent were both below. The steam swirled up making a nearly uniform mixture with the air and the thermometers kept close together throughout. The air was expelled as in the last case by progressive dilution; but here, the vent being below, gravity assisted, and all thermometers registered 99° C. in 32 minutes — 4 minutes sooner than when the vent was at the top.

In Experiment IV., both inlet and vent being above, gravity had no influence whatever in expelling the air. Only the progressive dilution from diffusion and conversion was operative. The upper two thermometers rose quickly, but at the end of an hour the lowest thermometer stood at only 73° C.

The experiments show that in a sterilizer the steam should enter at the highest point, and the air find its exit at the lowest point.

A second set of experiments I made with a pressure-sterilizer at a pressure of 20 pounds. To take the temperature in the bottom of the sterilizer a hole was bored through the head of the sterilizer, and a thermometer so placed that its bulb, protected by a glass covering, was within the sterilizing-chamber very close to the bottom. The stem projected outside and could be read. Owing to conduction of heat by the metal casing, etc., this thermometer did not give the full temperature of the atmosphere about its bulb. The highest temperature it would record at 20 pounds was 122° C. But for this investigation the relative temperatures under various conditions were sufficiently striking to demonstrate the principles involved.

The sterilizer was of the Sprague pattern, made by the Kny-Scheerer Co. It consists of an inner cylinder for the materials to be sterilized and an outer cylinder enclosing the first. The space between the two serves as the boiler, and the steam can be let into the inner one by opening a valve. The apparatus was originally provided with an ejector, the vacuum pipe of which communicated with the top of the sterilizing-chamber. This was charged so as to draw from the bottom of the chamber.

Experiment I.—Steam at 20 pounds was let in and the pressure maintained at 20 pounds. At the end of 5 minutes the thermometer stood at 96½° C. At the end of 30 minutes it had reached only 104° C. I then opened an air-cock at the bottom of the sterilizer and let all the air out. In 3 minutes all the air had been expelled and the air-cock was closed. The pressure had fallen to 10 pounds and yet the mercury had risen from 7½° to 11½° C. The pressure was than allowed to rise to 20 pounds, which it did in 8 minutes. The mercury then stood at 122° C. I measured the air which was blown off through the cock, and it was much less than one-half the capacity of the sterilizer. Unless so much had escaped by leaks in the sterilizer the temperature would probably not have reached even 104° C. in the 30 minutes.

Experiment II.—The air was got rid of as quickly as possible. With the pressure at 20 pounds in the sterilizer the air-cock at the bottom was opened till all air was expelled. This took 5 minutes. The air-cock was then closed, and the pressure allowed to rise to 20 pounds, when the mercury stood at 122° C. The time occupied in the whole process of raising the temperature to 122° C. was 8½ minutes. In the last experiment with the air left in it took 30 minutes to reach 104° F.

Experiment III.—This was to test the efficiency of the ejector in getting rid of the air. With the steam at 20½ pounds the ejector was turned on and left till the pressure had sunk to below 20 pounds. This was repeated six times. It took 6 minutes. The steam was then let into the sterilizing-chamber and the pressure maintained at 20 pounds. At the end of 12 minutes from the beginning of the ejection the mercury stood at 10° C. At the end of 20 minutes it had reached only 104⅓° C. The air was let out and was found to be about 2½ liters.

The temperature quickly ran up as in the previous experiments as soon as the air was all expelled.

I used the following method for determining when the air was all out: To the air-cock I attached a tube and carried its end beneath water. As long as there was much air being expelled it would bubble up briskly. As the air became nearly exhausted the bubbles would shrink to a small size on leaving the tube, being mostly steam. When the air was practically out the bubbles became almost invisible, and a water-hammer was established, making a noise like the explosion of a bunch of firecrackers. This seems to me an exceedingly simple, striking, and accurate method of determining when the air is all out of a pressure-sterilizer.

My experiments with the pressure-sterilizer show that a pressure of 20 pounds above the 15 pounds of the atmosphere gives no assurance of a high temperature at the bottom of the sterilizer unless the air is expelled. The method of exhausting the air by an ejector before the steam is let in is doubly feeble, for, in the first place, it will take out only a portion of the air, and in the second place, as soon as a partial vacuum is produced more air will be sucked in through the leaks which always exist in such an apparatus. The methods which get rid of the air by progressive dilution are very slow. The quickest method is also the simplest—merely to let the steam enter at the very top, the air flow out at the very bottom and bubble up through water. As soon as a sharp water-hammer, with very minute bubbles, is established, the air is out for all practical purposes, and the temperature throughout the interior of the sterilizer corresponds to that of saturated steam at the pressure indicated by the gage.

THE MORE UNUSUAL FORMS OF PUERPERAL HEMORRHAGE.

By S. MARX, M.D.,
of New York;
Attending-Surgeon to the New York City Maternity.

The absolute safeguard against hemorrhage from an atonic uterus post-partum is perfect retraction and contraction of the muscular fibers of that organ. This condition can be brought about in nearly all cases by ordinary care and skill on the part of the accoucheur, and, in fact, is beautifully accomplished by unaided effort on the part of Nature in the largest number of instances. These ordinary cases of post-partum hemorrhage are entirely foreign to this paper; the attempt to be made is a recital of puerperal hemorrhages of rare origin, and in all of the cases reported the condition was a desperate one.

The history of the first case is certainly a very unique one, and was seen with the medical attendant, Dr. L. A young woman, a divorced one, found herself pregnant, and outside of her melancholic state because of her social position, enjoyed good health until five-months' pregnant. Without cause she then began to have labor pains, and was delivered in a natural manner of a fetus surrounded by an intact fruit-sac. The uterus contracted well, and the convalescence was apparently normal except for a rather profuse and prolonged bloody lochia. At the end of one week, much to the surprise of her physician and to her own chagrin, labor pains began again, and in a few hours a second fetus was expelled, and with it a macerated placenta. Her convalescence was apparently normal, except for some slight intermittent pain and a slight hemorrhage. Suddenly, *five weeks* after the birth of the second fetus, and accompanied by a very profuse hemorrhage which caused a marked anemia, *a third intact fetal sac* filled with liquor amnii was expelled. No trace of a fetus could be found. After a stormy convalescence the patient fully recovered her health. Before leaving her, a direct and thorough manual exploration was undertaken, with the idea in view of finding still another but possibly hidden fetus.

This case need not be commented upon, except that it is well to remember that pain and hemorrhage are *always* inconsistent with a normal puerperium, and when these two conditions are present a direct manual examination is always in order.

In the next case, the puerperal hemorrhage was a direct result of a traumatic insult offered an overdistended bladder eighteen hours after labor, the source of the hemorrhage being partially vesical and partially uterine.

The patient, a primipara, was seen in consultation after a normal labor. The placenta showed no disposition to expel itself, and after six hours the Credé manipulation was carried out at short intervals for twelve hours. There was constant but mild leakage of blood from the vulva. My assistance was asked for, and on my arrival a rather peculiar condition of affairs was found. The hand of the doctor was placed over a large boggy mass, the fundus of which was on a level with the umbilicus. This was the organ upon which the Credé method of expulsion had been practised, and which was soon proven to be the overdistended bladder. To the left of this tumor, its fundus reaching to the level of the ensiform cartilage, was the long-drawn-out uterus containing the placenta, which lay unaborted in its cavity. The bladder was quickly emptied of a large amount of deeply stained, bloody urine, and the placenta delivered with no trouble whatsoever. The uterus contracted well, and instantly took its position as soon as the bladder was emptied.

The lesson to be taught by this case is both instructive and valuable. A full bladder in the parturient woman can and is likely to cause as great a dystocia as a real pelvic contraction, and to my

mind it is as essential to prove the bladder empty by the catheter and not by questioning the patient or nurse, as it is essential to render the examining finger rigidly and scientifically aseptic. A woman may pass water regularly at short intervals, and yet carry a veritable reservoir in her abdomen. Note the cases of ischurie paradoxa, the incontinence of retention so characteristic of incarceration of a retroflexed, gravid uterus. To make this point even more emphatic, let me illustrate by the history of the following case actually seen by me in consultation:

A neurotic second multipara; had always menstruated regularly. Last menstruation in October; skipped her November period, and again had her flow, but yet very slight in December and January. There were present all the symptoms of pregnancy, and the patient considered herself in that condition. During the previous seven weeks she noted a rapid development of an abdominal tumor. She had had irregular temperature and rapid pulse, but otherwise had felt well. She, as well as her physician and the nurse, stated that she had been passing a large amount of urine regularly. On examining her abdomen, I saw that she had the appearance of being about seven-months' pregnant. The abdomen was filled by a tense, elastic, fluctuating mass, situated directly in the median line. No intermittent contractions so characteristic of pregnancy could be elicited. There were no fetal heart-sounds nor small parts to be noted. On vaginal examination it was difficult to introduce even one finger because of the enormous edema of the rectovaginal septum, the collateral edema evidently being due to the pressure from the tumor. The enlarged pregnant uterus was found pressed back in the hollow of the sacrum. Upon following out my invariable rule, never to fail to use the catheter, much to my astonishment the tumor slowly but surely disappeared in the form of *seven and one-half quarts* of urine. The previous diagnosis by the family doctor had been a malignant intra-abdominal growth.

Late secondary hemorrhage on the tenth day of the puerperium is a rare complication, yet in the following case an overdistended bladder, which evidently caused this bleeding, rendered the patient so exsanguinated that her life was despaired of for a number of hours.

The patient, a young primipara, was seen by me with Dr. Breitenfels of this city, after she had been in labor for a number of hours. Upon examining her I found a transverse impaction of the fetal head at the brim. Axis-traction delivery followed, and her convalescence was so uneventful that the doctor stopped his visits on the seventh day at the suggestion of the woman because she felt so well. On the tenth day so frightful a hemorrhage occurred as to give the classical picture of an acute, intense anemia. At the time of my seeing the patient with the doctor we found the fundus pulled up to a point two-fingers' breadth below the umbilicus, and drawn well to the right side of the abdomen. The bladder was found overdistended with urine, the result of a retention of thirty-six-hours' duration. This was the only abnormal condition found, and evidently caused this sudden uterine relaxation and the consequent terrific hemorrhage. When the catheter was passed the uterus was found to be small and fairly contracted, and after thoroughly washing it out the organ was packed with gauze, and measures taken to combat the desperate state of the patient. The convalescence was a very tedious one, but the woman finally recovered.

Partial retention of urine in the recently confined woman I have so very often met that certain physical signs are very characteristic. When one palpates the abdomen the uterus is always found dislocated to one side or other of the abdomen, usually the left. This dislocation is so closely associated in my experience with a partially distended bladder that notwithstanding the statements of all parties concerned, I invariably allow the use of the catheter, with the result that a considerable amount of residual urine is discovered, and upon its removal the fundus promptly moves into place behind the symphysis. On several occasions I have found the whole uterus retrodisplaced from an overdistended bladder. This position favors retention of lochia; with decomposition the condition called "lochia metra" is found with its concomitant symptoms of a true sapremia. The treatment is self-evident, being both prophylactic and curative.

The next case to report is one of very severe bleeding, occurring seventeen days after labor. This case has been reported in full in *The American Gynecological and Obstetrical Journal*, under the title of "Inversion of the Puerperal Uterus." The history is given direct from this report with the associated comments:

Attending physicians, Drs. J. McGillicuddy and Smith. A second multipara was delivered rapidly. The case ran an uneventful course except for a marked subinvolution of the uterus and a prolonged bloody lochia. The placenta and membranes had been expelled entire, and there had been no fever nor pulse-rise nor fetid lochia. When dismissed the woman still had a large uterus, the fundus of which rose well out of the pelvis. Seventeen days after labor, while at stool, the patient was seized with intense pain in the abdomen while attempting to discharge some very hard fecal masses. The passage of feces gave her severe pain, and she was compelled to use considerable expulsive effort. The pain was agonizing, of an expulsive character, situated in the lower abdomen. A very severe hemorrhage occurred, and this, with the increasing bearing-down pain, caused her to faint. She was put to bed, and her physician hurriedly summoned. The symptoms were those of a very severe anemia—

alarming pallor, and a very rapid pulse. Large clots of blood were continually expelled from the vagina.

Upon making an examination, I found the abdomen very tense, but there was a cupping of the fundus about two-fingers' breadth above the symphysis. A number of clots were found in the vagina, and high up in the canal there was a friable, soft mass, about the size of a closed fist, protruding through the os, and tightly embraced by the cervix. At first this mass appeared to be the fundus, partially inverted, but on more careful examination it was thought that there could be traced upward from the mass a very broad pedicle. Further and closer examination could not be made on account of the bad general condition of the patient, who now had a running, almost imperceptible pulse. Examination and operative treatment was postponed twelve hours with the hope that the patient might react. The entire vagina was tightly tamponed with gauze, and repeated enemata of salt water and strychnin were ordered. At the next examination it was found that the patient had reacted nicely. There was no further hemorrhage; the pulse was 110, and very good. Ether narcosis; tampon removed. The vaginal tumor proved to be an organized fibrous placental polyp, about the size of a goose-egg, attached by a long and broad pedicle to the right lateral uterine wall and fundus. In delivering itself it had partially inverted the fundus and corresponding lateral wall of the uterus. Its attachments were readily peeled off with the fingers, the growth delivered, and the uterus and vagina tamponed with gauze. The patient died some weeks after the operation, but the cause of death is unknown.

My remarks at the time the report of this case was made were pertinent, and I think timely, and will bear repetition now: "The cause of the tumor's formation was probably either from a placental rest, or, what is more probable, from a "placenta succenturiata." The only symptoms which should have made the physician suspicious were the subinvoluted uterus and the prolonged bloody lochia. Either one or the other of these symptoms is sufficient to warrant the medical man in insisting upon a physical exploration of the uterus, when the presence of secundines would have been discovered and removed. As a rule, when placental or membrane tissue remains behind, no trouble need be anticipated, providing we are reasonably sure of our asepsis. I cannot agree with those who will insist upon entering every peurperal uterus when there is a suspicion that a small piece of placenta or membrane remains behind, for it is known that in a majority of cases these are expelled spontaneously or can be washed away or otherwise artificially removed when the occasion demanding their removal arises. The indications for their removal need not be a fetid lochia nor a temperature nor a rapid pulse, which symptom-complex is usually associated with a sapremia, but a severe degree of after-pains, persistent especially when ergot is not given, *in a primipara*, after-pains being most suspicious. A subinvoluted uterus and a persistent bloody lochia is quite enough evidence to the careful observer to demand an exploration."

In the following we had to deal with an enormous vulvovaginal hematoma, one of colossal dimensions, the largest ever coming under my observation.

The patient was a young primipara, a typical scorbutic, but only so since becoming pregnant. Her body was covered with old and new ecchymotic areas, and the gums were swollen, reddened, and bleeding. She had a perfectly normal labor, and was delivered readily by means of the low forceps. There was no unusual bleeding, and it was hoped that no complication would occur. She was carefully watched by the house-surgeon, who noted a very gradual growing anemia. The patient complained of decided pressure symptoms in the lower vaginal tract. Tentative treatment being of no avail, I was notified.

The examination revealed the right labium majus, the external genitals, gluteal and perineal region to be the site of an enormous blue-red tumor the size of a fetal head, and evidently on the point of rupturing. This hemorrhagic condition extended around the rectum up the right vaginal wall into the corresponding broad ligament. There was no uterine rupture. The patient was in a condition of profound collapse, and was alarmingly white. Nevertheless, under a careful A. C. E. narcosis the vulva was laid completely open, and a large amount of clotted blood removed. The cavity exposed, which was an enormous one, was thoroughly irrigated. The size of the cavity can be best judged of when forty-two yards of two-inch gauze was required to pack it. While on the table the patient received one pint of salt-solution under each breast, which materially improved the volume of her pulse. During the same night she suddenly developed an acute edema of the lungs, for which 2½ grains of camphor in oil was given every twenty minutes under the skin, and this with inhalation of oxygen and cupping caused this very grave condition to disappear. The cause of this sudden pulmonary edema was evidently due to diffuse pulmonary emboli, because in forty-eight hours the patient developed disseminated areas of consolidation throughout both lungs, the so-called embolic pneumonia. She made a clean though slow convalescence, only to die some months after from an acute general tuberculosis.

The occurrence of a scorbutic condition during pregnancy was the only one of the numerous interesting features of this case to be discussed, and this because of its rarity. It seems hardly possible to account for its direct occurrence, since it is known that the coagulating properties of the blood are materially increased during pregnancy, the so-called

"hyperinosis of pregnancy." For this reason the impoverishment of the blood is certainly overbalanced by this hyperinotic condition, and the increased thickness of the whole vascular system due to its physiologic hypertrophy. An interesting question arising is the following: Are we justified in advising the induction of premature labor in patients of a hemorrhagic tendency? For this indication, pure and simple, I think not, for the only complication to be feared is hemorrhage, and this, uterine, and post-partum. This certainly is as readily controlled at term as at a much earlier period, since in the tampon we have a method for checking uterine hemorrhage that rarely fails us. But in certain of these cases I can readily see that the induction of premature labor is not only justifiable but sincerely to be wished for—cases in which there is associated a profound condition of anemia. This I have met with once, but my wish to induce labor was overruled by the patient and a prominent gynecologist whom the patient saw unknown to me. Yet to-day, in looking back at the case, I am happy that the patient proved disloyal to me and followed the wish and advice of the other practitioner, for four weeks later she died suddenly, probably from a cardiac thrombosis. Had I operated upon her under narcosis what would have been the result of the operation? I think death, for I believe it is Olshausen who says: "Do what you will medically or surgically, these malignant blood cases die whether delivered or not."

The next case to be reported belongs, I think, to the category of the cases just discussed, although we could elicit no history of hemophilia either before or during pregnancy, but the patient died from a general vulvo-vagino-uterine hemorrhage which was not to be checked by any means short of tying the uterine arteries, and this even was problematic.

An eight multipara, seen with Drs. L. L. Bradshaw and Palmer. Because of a partial placenta previa the attending physicians performed a careful manual dilatation of the uterus and succeeded in a few minutes. Then the trouble began, for the patient began to bleed in a furious fashion and in a short time was profoundly anemic. It was impossible to determine where the bleeding came from, for it did seem that all parts of that woman's genital tract leaked blood. The uterus was firmly packed with gauze to the fullest degree; then the cervix bled profusely. It was completely closed over the tampon, the whole canal being occluded. The vagina now bled furiously. Firm tamponade, pressure, hot and cold water, styptics, iron, alum, etc., did no good. Large circular sutures were now passed, including all the parts of the vagina. This stopped the bleeding which we hoped to control, but the needle-punctures bled worse than the original points. Over these again the firm tampon was used, which we found evidently checked the hemorrhage. But the bleeding ceased because the patient had no more blood to lose; she was deeply and profoundly collapsed. Intravenous transfusion was now practised, but the increased vascular pressure brought about by the infusion started the vagina to bleeding again and in a short time the patient was dead. The attempt to tie the uterine arteries was thought of, but the fear of additional shock to the patient stayed our hands from attempting it. Pressure on the aorta was not used since its pulsation could hardly be felt, and further, because the hemorrhage was as much venous as arterial. Everything that mortal being could do was done; and yet we felt that the patient was slowly but surely slipping away from us. I shall never forget the impression made on my mind by this case, for it was the most desperate and sorrowful one I hope ever to meet. This patient was placed in a modified Trendelenburg position (inverted chair) and I think this was a mistake. True, it relieved temporarily the acute anemia of the brain, but while we thought we had the hemorrhage controlled we did so because we did not see the blood. Because of the position none appeared to escape from the vulva; it simply followed the law of gravity and gravitated into the cul-de-sac until it was too full to hold any more and then it percolated through the gauze and escaped from the vagina.

The next and last case to be reported in this paper is one of fatal secondary hemorrhage from a lacerated cervix.

Multipara: three children. Family and personal history, present and past, good. History of previous pregnancies, labors, and puerperia normal. Went into labor at the end of pregnancy. Examination at beginning of labor revealed a deeply lacerated cervix with a breech presenting. Child born practically spontaneously, the whole labor lasting ten hours. After the birth of the child there was considerable hemorrhage from the uterus, for which the whole uterovaginal tract was tamponed with sterilized gauze. There was noted at the time a laceration of the cervix, but the source of hemorrhage was thought to be due to an atonic uterus. The packing perfectly controlled the bleeding. The patient was very much weakened but rallied nicely and began to improve. As is our custom at the hospital, the gauze was removed on the third day. At once, following this, came a very profuse arterial hemorrhage. The whole canal was instantly repacked, but in spite of all measures the patient was dead in one hour from the time the packing was removed. This alone would show how profuse was the bleeding, but the autopsy, performed the following day, threw some light and much interesting information on the case. It showed the futility and danger of packing in cases of cervical hemorrhage. The right side of the cervix was torn past the internal os and into the broad ligament. The whole cellular tissue was infiltrated and suffused by the enormous concealed hemorrhage, stripping up

the cellular tissue, retroperitoneally, right up to the right kidney region, and touching the lower border of that organ. There is no doubt in my mind that the firm vaginal packing simply concealed the hemorrhage, which had been going on quietly during the three days following the labor. Having no external escape the blood was dammed back into the retroperitoneal tissue, and thus was diffused where the autopsy revealed it. The liberation of the gauze simply started up the severe external, visible hemorrhage, and this, combined with the concealed hemorrhage, was sufficient to cause so rapid a lethal result.

The lessons taught by this case are certainly pointed ones, showing the harmfulness and futility of uterovaginal tamponade in cases other than atony of the uterus. In cases of atony, there is no firmer and stancher believer in the regularly applied uterine tamponade than I; I have never noted a failure from its use, and always use this means in every case of uterine hemorrhage when one hot intra-uterine douche fails, and for this purpose always have constantly in my obstetric satchel ten yards of sterilized gauze five inches wide, tightly packed in a very small tube. Otherwise is it in cases of hemorrhage from the cervix. Here and here only do I find the legitimate indication for the use of suture and needle. I do not understand the utility of a primary cervical operation simply because of a cervical tear deep or otherwise so long as there be no hemorrhage. My reasons have been frequently stated, but in short they are these: If the accoucheur has been surgically clean all tears will as a rule heal without trouble. If sutures are applied, and asepsis has not been rigid, sepsis is likely to follow, and either the stitches must be removed, or, if not, union will not take place. Therefore, only in the presence of cervical hemorrhage is the primary operation countenanced.

A RESUME OF MY EXPERIENCE IN INTERNAL ANTERIOR URETHROTOMY.

By G. FRANK LYDSTON, M.D.,
OF CHICAGO, ILL.;
PROFESSOR OF SURGICAL DISEASES OF THE GENITO-URINARY ORGANS AND SYPHILOLOGY IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF ILLINOIS (CHICAGO COLLEGE OF PHYSICIANS AND SURGEONS).

During my term of service as resident surgeon in the New York Charity Hospital many years ago, I had the then unappreciated good fortune to serve under Dr. Fessenden N. Otis, whose original work in genito-urinary surgery has put the practice of American surgeons in that branch of surgical science far in advance of that of any other country in the world. My hospital opportunities for the study of genito-urinary disease, particularly in the direction of operative surgery upon the urethra, were excellent, but being prejudiced not only by the established traditions of the medical profession, but also by the opinions and teachings of my lamented friend, the late Henry B. Sands, who, as is well known, was opposed to Otis and his methods, I did not accept Otis' views until some time after entering private practice. Increasing experience then demonstated to me not only the inefficacy of all the time-honored methods of treatment of chronic urethral disease, but the soundness of Otis' views and the scientific accuracy of his technic, and I began practising the Otis method. Further and extensive experience has demonstrated to me its value and has convinced me that Otis' views as originally presented were in the main sound and that his ideas upon the relation of stricture, particularly of large caliber, to chronic inflammation of the urethral mucous membrane and to various reflex disturbances in different portions of the genito-urinary tract, or even remote nervous disturbances, were correct.

My internal urethrotomies of all degrees of importance have numbered something over 1500, and it is with a firm conviction of the value of the operation, born of this moderately extensive experience, that I present the conclusions embraced in this short paper.

The Value of the Operation of Internal Urethrotomy in Chronic Urethral Discharges.—There are several conditions of the urethral mucous membrane and sub-lying tissues incidental to localized chronic inflammation which, in my opinion, cannot be successfully treated except by the radical operation of dilating urethrotomy. I will state in this connection that I do not advocate urethrotomy in any case save those in which a thorough trial has proved the inefficacy of such methods of treatment as gradual dilatation, or local applications of various kinds by means of the endoscope and deep urethral syringe, or in cases in which a distinct coarctation of the canal is present of a character which experience has demonstrated to be incurable by any other method of treatment than division with the urethrotome.

There is a general impression to the effect that urethrotomy is never indicated save in cases of extreme urethral contraction. In cases of this kind my experience has shown that when it is possible to do so, it is best to begin treatment by dilatation and to continue it to the end, providing the coarctations show a disposition to yield. Urethrotomy is attended by best results when the necessary incisions are shallow. In cases in which there is extensive contraction of the urethra, however, the wound necessitated by thorough division of the coarctation is necessarily extensive. Subsequent cicatricial contraction is proportionately great; the interference with the circulation and possibly interference with

the functional capacity of the organ involved is also proportionately great. There are many instances in which endoscopic applications, deep injections, and dilatation by means of sounds or other contrivances absolutely fail to relieve chronic urethral discharges, and careful examination shows that while the entire circumference of the urethra is not involved in stricture, there exists at one or more points in the pendulous portion of the canal thickened, infiltrated, and hyperplastic areas that limit the distensibility and impair the elasticity of that portion of the canal.

These parts are sensitive to the contact of the passing urine and instruments, and induce at the point of the canal in which they are situated more or less spasmodic obstruction, with consequent friction. The involved part of the canal is never at rest, and in a large proportion of cases, I know of no means of putting it at rest and bringing about resolution and cure other than division of the stricture and inelastic area. The alterative effect, if you please, or better perhaps, the local depletion or improvement in the process of healing incidental to the incision has much to do with the cure of the localized inflammation, and with the cure of the localized inflammation the discharge usually ceases. Strictures of large caliber, involving the entire circumference of the canal, are in my opinion rarely cured, even though the symptoms dependent upon them apparently disappear, by any other method of treatment than internal urethrotomy. I am well aware that something of a reaction is in progress against the views of Otis with reference to this particular type of stricture. This reaction is not to be wondered at, considering the erroneous teachings of some of our text-book authors who dwell upon this subject. The non-surgical surgeons, who, while enacting the more fitting rôle of dermatologists, at the same time affect genito-urinary surgery have imparted some erroneous ideas to the profession on this subject. I have in mind two recent text-books, in one of which the assertion is made that any urethra that will admit a No. 26, French, sound cannot possibly be open to impeachment on the ground of stricture, much less should it be operated upon, a caliber of 26 being amply sufficient. In the other it is stated that the extreme capacity of the urethra is 30 or possibly 31, French. That these estimates are inaccurate and are not the result of personal observation in the performance of urethrotomy I am firmly convinced. I firmly believe that in a hundred individuals, taken at random—providing they have had no urethral disease whatever—the caliber of the urethra will average 35, French. The range of caliber between this average and 26, or even 30, is considerable, and anywhere between these limits a stricture of large caliber is perfectly capable of producing urethral discharge and other symptoms characteristic of chronic urethral inflammation, which will not yield until the diseased area is divided by the urethrotome. I have myself operated in cases in which the caliber of the stricture was 35 and upwards, and in two cases I restored the urethra to a size that permanently admitted a 45 bulb.

Prognosis of the Operation as Regards Cure.—I know of no disease demanding surgical methods of relief which has been judged so unfairly as stricture of the urethra in its relations to chronic urethral discharges. It is apparently demanded by non-surgical genito-urinary surgeons that internal urethrotomy should be successful in every case of chronic urethral discharge in order that its value may be proven. I do not know of any other disease susceptible of surgical interference in which so arbitrary and unreasonable a demand is made. A few uncured gleets out of a large number of cases in which urethrotomy is practised for their cure is apparently sufficient to excite a vociferous howl on the part of the anti-urethrotomists. It is not claimed by intelligent urethrotomists that the operation cures in every instance, nor is proof of such a claim necessary to establish its value. As far as my own experience goes I have found that in quite a large proportion of cases of stricture of large caliber, with associated and dependent gleet, a cure is accomplished by urethrotomy. I have found, furthermore, that cure without urethrotomy, while perhaps not impossible in all cases, appears to be impracticable in very many of them. In cases in which strictures of large caliber exist there is danger of deep seated urinary infection in portions of the canal more important and vital than that primarily affected by the stricture. This danger may be removed in many cases by urethrotomy, even though the gleet dependent upon the stricture is not cured. Chronic inflammation of the urethra involves infection and chronic inflammation of the urethral glands and follicles; they are not always accessible, and chronic inflammation, with a discharge dependent upon urethral catarrh, may exist indefinitely even after the original cause—stricture of greater or less caliber—has been removed. Recurrent attacks of inflammation of the prostate and bladder, with marked perturbation of the function of micturition, are often dependent upon strictures of large caliber in which there is little or no apparent obstruction although evident continuous infection exists. This condition of affairs may exist even though there may be no external discharge from the urethra. Such conditions are, however, frequently relieved with astonishing rapidity by the operation of urethrotomy. Frequent

diurnal and nocturnal micturition of a purely reflex character, incidental to strictures of large caliber, is quite frequent. Many such patients coming under my observation have been treated for a prolonged period under the supposition that the disturbance of the function of micturition depended upon inflammation of the prostate and bladder, despite the fact that the urine showed no evidences of inflammation of the mucous membrane of the genito-urinary tract, and no urethral discharge existed. In many such cases the relief afforded by an internal urethrotomy has been surprisingly prompt and permanent. Many cases have come under my observation in which recurrent attacks of epididymitis dependent upon strictures of large caliber in the pendulous portion of the urethra occurred from time to time, and proved absolutely resistant to treatment until internal urethrotomy had been performed. In such cases there is obstruction of the pendulous urethra with coincidental imperfect drainage and constant infection that can only be relieved by operation.

Prognosis as Regards Untoward Results.—A great deal has been said by the opponents of internal urethrotomy regarding the evil results supposed to accrue from the operation. With respect to this point, it is a difficult matter to estimate the true status of the operation. The operation of internal urethrotomy performed by one surgeon may be as different from the same operation performed by another as an operation of a totally different character would be. I know of no field in surgery that requires more careful discrimination of cases, nor riper judgment born of experience as to indications for and limitations of the operation than internal urethrotomy. My experience has demonstrated to my own satisfaction that this operation is rarely followed by untoward results when properly performed. The proportion of disagreeable results is so small as to have very little weight in the balance with the beneficial effects of the procedure. Dribbling of urine as a consequence of interference with the continuous wave of contraction of the accelerator urinæ muscle characterizing the finale of micturition is, it must be confessed, an occasional result of the urethrotomy cicatrix. This is sometimes productive of considerable inconvenience, rarely more so, however, than is the stricture for which the operation was practised.

Continuance of urethral discharge is by no means unusual even after a skilful operation for stricture. It must be remembered that this continuance of discharge may be dependent upon the fact that the operation of internal urethrotomy has been so long deferred that secondary conditions of an incurable character have developed, which continue after the removal of the original source of the difficulty. Again, the urethrotomy might not have been properly performed, and one or more bands may still remain in the urethra and perpetuate a chronic inflammation behind them, with coincident gleety discharge.

Pseudo-impotency, although rare, is met with sufficiently often after internal urethrotomy to demand consideration. When it does occur the patient usually believes that some nerve, as he expresses it, has been divided, with resultant loss of the function of the organ. Obviously a proper urethrotomy incision can in no possible manner by interference with the nerve-supply of the organ produce such a result. That extensive cicatricial contraction, adhesion, and inflammatory deposit at the site of the urethrotomy and about it may produce interference with the circulation to such an extent as to impair its erectile function, is admitted. This, however, is rare, and if all obstructions and sources of irritation have been removed resolution usually occurs in time. Impotency following urethrotomy under ordinary circumstances is of the pseudo type and due to psychic perturbation, being, therefore, susceptible only to remedies producing a psychic counter impression.

Permanent chordee following internal urethrotomy is occasionally met with. It is due to extensive cicatricial contraction following more or less diffuse inflammation in the vicinity of the urethrotomy wound. The mechanical condition upon which it depends is a glueing together, so to speak, of the planes of areolar tissue underlying the mucous membrane upon the roof of the urethra, because of which they do not glide upon one another as they should do during the variations of the size of the organ, incidental to a fluctuating blood-supply in the erection. I have not seen more than two or three cases of permanent curvature of the penis as a result of internal urethrotomy, and even in these apparently permanent cases I have been somewhat in doubt as to the final outcome, having lost track of them after a variable length of time. My experience goes to show that the curvature yields more rapidly in cases in which the patient indulges in sexual intercourse within a reasonable period after the performance of the operation. The active performance of the erectile function of the urethra seems to break up adhesions and promote a return to the normal circulation of the parts. As already intimated, a few permanently disagreeable results should not be permitted to be weighed in the balance with the multitudinous cases in which the operation is followed by successful results without disagreeable sequelæ or complications.

Immediate Results of the Operation.—The condition most likely to give the surgeon annoyance is, in my experience, urethral hemorrhage. Occasionally this is quite severe, rarely dangerous. In cases of hemophilia the danger would, of course, be especially marked, but such cases are very rare. I have found that careful, firm bandaging of the penis from the meatus to the root of the organ is usually effective in checking hemorrhage. By the time the patient is called upon to urinate permanent hemostasis has usually occurred. In cases of annoying hemorrhage following internal urethrotomy I have found emulsion of turpentine, ten minims to the dram, administered every two or three hours, to act moderately well. Turpentine is much more efficacious and reliable than ergot and its congeners. This much may be said with reference to the question of hemorrhage, that there is no danger of serious hemorrhage when once a firm bandage has been properly applied to the penis. Severe hemorrrhage occasionally occurs after an internal urethrotomy at a time when the operation-wound might naturally be supposed to be firmly healed. Thus, I have met with one case in which severe hemorrhage came on two weeks after the operation, a week having elapsed since there was even oozing of blood from the meatus. The hemorrhage came on following a prolonged and violent erection. Experience goes to show that, as might be expected, the greater the sexual repose of the patient the less the liability to hemorrhage.

Urinary fever, so-called, has been of late years the rarest of occurrences in my urethral surgical work. I attribute this to as nearly perfect asepsis as is compatible with the nature and function of the urethra, and to the asepsis of the urine maintained by the administration of oil of eucalyptus internally. Even a slight chill is a very rare phenomenon in my urethral cases at the present time. Other remedies are efficacious, none so much so, however, as the oil of eucalyptus. In a general way, I am prepared to state that the danger of urethral fever is directly proportionate to the frequency and roughness with which the urethra is tampered with by instrumentation after the operation. In by far the larger proportion of cases the introduction of sounds following the operation is begun too soon. The prevalent notion seems to be that unless the urethra is speedily and frequently dilated after the operation its possible benefits will be lost. This, however, is a fallacy. I presume that in the majority of cases it is perfectly safe to defer sounding after urethrotomy for a week. It is rarely my practice to dilate sooner than the fourth or fifth day, save in the case of the meatus, which should be dilated every second day.

Prognosis as Regards Danger to Life.—It is my pleasure to state that I have thus far experienced no fatal results from the operation of internal urethrotomy. I say this simply as a fact which must be accepted upon its merits. I realize perfectly that fatal results have occurred at the hands of very competent operators, and further, that it is by no means impossible that I may at any moment have a like experience. I simply state that such a result has not as yet occurred in my experience. Proper aseptic and antiseptic precautions at the time of the operation, with careful attention to the urine, involving particularly the internal administration of remedies that have a special antiseptic effect upon that fluid, constitute the best means of avoiding serious results. That cases occasionally occur in which even this means of prevention will fail to obviate a fatal result is possible. I do not, however, think it probable. Doubtless in many of the fatal cases that have been reported the urethrotomy *per se* cannot be justly held responsible for the fatal result. It should have been properly attributed to disease of the kidneys. Like all other operations upon the genito-urinary tract involving shock, internal urethrotomy in the presence of more or less serious impairment of the kidneys, as a consequence of long-standing obstruction and urethral infection, may give rise reflexly to hyperemia of the kidney, with complete inhibition of the renal functions, which have already been seriously impaired.

Prognosis as to Permanency of Cure.—I believe that internal urethrotomy in by far the larger proportion of cases of penile stricture of the urethra effects a permanent cure. I have examined cases at intervals after operation varying from one to fifteen years in so many instances that I am convinced that my statement is correct. In a very large proportion of cases of apparent recurrence, the lack of permanency is due either to a fresh attack of the infectious inflammation or to the fact that one or more bands of stricture tissue have escaped division during the original operation.

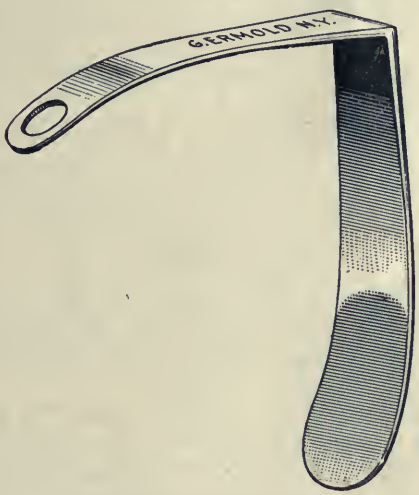
In conclusion, I will state that despite adverse criticism and the endeavor on the part of enthusiasts in endoscopy to cry down the operation of internal urethrotomy, it still remains one of our most valuable surgical procedures, and in a large number of cases of urethral disease is the only practical method of effecting a permanent cure.

Dr. Roux a Member of the French Academy of Sciences.—Dr. Roux, well known for his work on diphtheria serum, and the Assistant Director of the Pasteur Institute of Paris, has recently been elected a member of the Academie Francaise des Sciences of Paris. He succeeds to the chair left vacant some time ago by the death of M. Aimé Girard.

PHARYNGITIS AND TONSILLITIS IN INFANTS.[1]

BY HENRY DWIGHT CHAPIN, M.D.,
OF NEW YORK.

IT has seemed to the writer that many attacks of fever and illness in infants are due to a catarrhal inflammation of the throat, and that such attacks are not infrequently attributed to some other cause. The principal reason for such a possible error lies in the difficulty in getting a satisfactory view of the fauces. This is especially true in very young infants. The tongue is high and the soft palate and pillars of the fauces low down, so that it is extremely difficult to get a clear view of the parts. Unless a satisfactory view is obtained at the first attempt it becomes increasingly difficult, if not impossible, to see clearly at all. The opening is so small that a little mucus produced by the irritation of a second or third examination completely obstructs the view. In addition to this some milk is apt to be regurgitated from



Author's new tongue depressor.

the stomach and then it is absolutely impossible to see the real condition of the mucous membrane.

The writer has had such difficulty at times in satisfactorily examining the throat in young infants that he has devised a tongue depressor for this purpose (see Fig.). Most of the tongue depressors in use are not only too large but do not have the proper slant for the infant's tongue. As a result, the back of the tongue, not being properly held, arches up and obstructs the view of the fauces. The depressor here presented is small enough for the youngest infant's mouth, and is intended to curve over the tongue to the base of the epiglottis. By exercising a little pressure downward and forward the parts will come into clear view. Of course the infant should be properly held and placed before a good light. When everything is in readiness the left hand is used to steady the head while the right hand manipulates the depressor. These details will naturally suggest themselves to the careful physician but are often overlooked, with the result of unduly fretting the infant and failing in the examination.

In infants tonsillitis, as distinct from pharyngitis, is rare. The whole mucous membrane of the pharynx and tonsils is involved in the catarrhal inflammation. The tonsils may be somewhat enlarged and are covered with very fine pin-head points of a whitish exudation. These points can be recognized only when the fauces are well exposed in a good light. In rare instances the uvula is swelled and infiltrated. The secondary forms of pharyngitis seen in most infective diseases will not be here considered. The primary form is apt to be overlooked from the absence of symptoms referable to the throat, and the inability of the infant to call attention to the affected part. The swelling of the lymph-glands of the neck so often noted in diphtheria and scarlatina is not usually present in primary pharyngitis. The two most common predisposing causes of primary throat inflammation in infants are (1) disordered stomach and (2) exposure to cold. The frequent mistakes in the feeding of infants, especially overfeeding, produce an acid fermentation in the stomach. By direct continuity the mucous membrane of the pharynx and mouth may become irritated and inflamed. When the latter happens the temperature keeps up instead of subsiding when the stomach is relieved of its contents by vomiting or by their passage into the bowel. Exposure to cold is likewise a common predisposing cause. Many infants, especially among the poor, are too warmly clad, especially about the neck and chest. As a result the skin is constantly moist. Such infants live and sleep in overheated rooms. In these cases an ordinary exposure to the cold air of draughts will induce throat inflammation.

It will be noticed that the causes here given are mentioned as *predisposing*. Most, if not all, forms of tonsillar and pharyngeal inflammation are due to the presence of microbes. In health and under good hygienic conditions the mucous membrane of the throat may not be unfavorably affected by microbes, but under depressing conditions, particularly when the digestive tract is in an irritated condition, the throats of infants are vulnerable. It is quite possible that many impurities may likewise find their way to the mouth and throat by means of dirty fingers, or objects which are given to infants as toys, and which quickly find their way to the mouth.

The treatment consists in removing the cause, whether it be a deranged stomach, defective action

[1] Read before the Section on Laryngology and Rhinology of the New York Academy of Medicine, January 25, 1899.

of the skin, or faulty hygienic surroundings. The recurrence of attacks of pharyngitis in infants is the most common cause of post-nasal catarrh in children. The repeated irritation induced by these attacks causes hypertrophy of the adenoid tissue at the vault of the pharynx which is the invariable accompaniment of catarrh in the later years of childhood. Frequent irrigation of the nostrils with normal salt solution, or boracic-acid solution, should be employed in all cases in which there is a tendency toward pharyngitis in infants.

To sum up, in order to successfully examine the throat of an infant the parts must be satisfactorily seen at the first examination. By means of the tongue depressor here presented the base of the epiglottis is firmly held at the first attempt and the fauces exposed to view. Pharyngitis and tonsillitis are more common in infants than has been supposed, and are a fruitful cause not only of present discomfort but of post-nasal catarrh in children. Repeated attacks will surely cause enlargement of the adenoid tissue at the vault of the pharynx as well as of the faucial tonsils.

CLINICAL MEMORANDUM.

A CASE OF ŒSTRUS HOMINIS.

By MAXIMILIAN HERZOG, M.D.,
OF CHICAGO, ILL.;
PROFESSOR OF PATHOLOGY IN THE CHICAGO POLYCLINIC.

LARVÆ of the insect order *Diptera* (flies) play quite a prominent rôle as parasites of several of our domesticated animals. On the other hand, it is quite rare, at least among civilized nations, that species of the genus *Œstrus* or *Hypoderma*, which so commonly deposit their eggs for development in the skin of cattle, sheep, and horses, select the human race as the unwilling host for their fertilized ova. A case of this kind is reported in this short communication.

Cobbold,[1] in his extensive monograph on parasites, reports a few œstrus hominis cases, some of which he has seen himself, while the others are collected from literature. Among Cobbold's list of cases we find that of the celebrated African traveler, Livingston, from whose leg a maggot, the larva of an œstrus, had been removed. This specimen is still to be found in the Hunterian Collection in London. Other cases cited by Cobbold were observed in Brazil, and other parts of South America; two cases occurred in the persons of traveling entomologists; one case in a young boy in Texas, etc. Voelkel[2] observed a case in Germany, in a young boy. The larvæ, as Leukart and Bauer thought, were those of *Hypoderma Diana*. Shimoneck[3] saw a case in an infant two weeks old. The child had been born prematurely at seven months, and when about ten days old developed swellings all over the body. These contained, as was soon discovered, the larvæ of *œstrus bovis*.

The case herein reported was observed in Duncan, Indian Territory, by Dr. D. Long, who forwarded to me, with a request for diagnosis the larvæ found, and the following history:

"December 26, 1898, a girl, four years old, had been restless and sick for several weeks with a low fever of an intermittent type, and nervous symptoms. The discharges from the bowels occasionally contained a good deal of mucus and some blood; her appetite, however, as a rule, was good. Within the last week there had developed a tenderness of the abdomen, and a slight enlargement over the right lobe of the liver. Two days ago there appeared on the right side, between the ninth and tenth rib, a small, red spot, which developed into a vesicle or pustule. On opening the later a living parasite was found protruding from the skin. The maggot was carefully removed with a pair of small forceps, and placed in a preserving fluid."

Since I was myself unable to fully indentify the insect larva I referred it to the United States Department of Agriculture, Bureau of Animal Industry, at Washington, whose chief, Dr. D. E. Salmon, obliged me with the following report:

"A careful examination of the specimen shows it to be very closely related to the genus *Hypoderma*. As it is a very young form I hesitate to attempt its specific determination, but it is very similar to the larvæ of *Hypoderma lineata* at this stage of growth."

A request to Dr. Long to furnish some more of the larvæ could not be complied with, since no more were found upon the person of the little patient, who, after the removal of the one, very soon improved and completely recovered from her troubles.

Hypoderma lineata, the species to which the parasite found, as it appears, belongs, is known also under the name of *Œstrus hominis*, or *O. humanus*, or *Dermatobia noxialis;* in common English as the gad- or bot-fly.

[1] Cobbold, "Parasites," etc., London, 1879.
[2] Voelkel, "Fall von Œstrus hominis," *Berl. klin. Wochenschr.*, p. 209, 1883.
[3] Shimoneck, "Larvæ of Œstrus bovis," etc., *Northwestern Lancet*, p. 62, 1884.

SPECIAL ARTICLE.

THE GARRISONING OF OUR TROPICAL POSSESSIONS.

No. 5.

DUTIES OF SANITARY AND ENGINEER OFFICERS.

By SENECA EGBERT, M.D.,
OF PHILADELPHIA;
PROFESSOR OF HYGIENE AND DEAN OF THE MEDICAL FACULTY IN THE MEDICO-CHIRURGICAL COLLEGE OF PHILADELPHIA.

HAVING indicated in former articles the dangers that beset our troops in Cuba, it is fitting that the means of guarding against these should now be positively and emphatically declared. Some may, perhaps, feel that I have drawn a picture too somber in tone and magnified the perils that are so full of menace, but all who have read Mr. Hill's paper in the January *Forum*, entitled "Colonel Waring on the Sanitation of Havana," must have been impressed by this paragraph:

"If Havana in its present condition were suddenly peopled with men from our Northern and Western States, the results would probably be as follows: The general death-rate would be very much higher than at present; the proportion of deaths from dysentery would decrease somewhat because of our cleanliness and better dietetic habits; the proportion of deaths from typhoid fever would increase considerably; while malaria and yellow fever would claim scores of victims for every one they gain now."

And though it is encouraging and reassuring to learn that, under General Ludlow's administration, the death-rate of Havana for the past month shows a marked decrease, we must all realize that it is still excessively high, that the fatal conditions and causes still prevail, that many of our soldiers are now in Cuba, and that within three months the seasonal changes will almost surely tend to verify the above prediction.

What, then, may be done to protect our men? At this distance we cannot presume to know or to dictate as to the military or administrative exigencies, but we are firmly of the opinion that in so far as possible the troops should be kept out of the large cities, and, especially, that their camps and barracks should not be located therein. Police work will be distasteful to them, and there seems no reason why such duties should not be performed by trustworthy natives. The Spanish soldiers have departed, and that source of irritation to the public peace has been removed. The population accept our presence not only with toleration but with real friendliness. Any disorders, therefore, will likely be not much in excess of what is normal to large cities, and will not be due to popular distrust nor to a general uprising. Any immediate need for our soldiers could promptly be supplied from camps without the city walls; but, above all, they should *not* occupy the forts and barracks so lately vacated by the enemy, for there is every probability that these are so thoroughly impregnated and infected with the seeds of disease that the most careful disinfection and sanitation could not ensure safety to unacclimatized occupants for a long time to come.

In fact, if the statements are true which Colonel Waring had undoubtedly prepared for his report to the Government, every day that a soldier spends in Havana increases his risk of infection, and this particularly as the wet and warm weather approaches. The selection of the camp-sites must be made with care. They should be as elevated as possible, and far removed both from marshes and lowlands, which are the breeding-place of the various malarial organisms, and from all filth-deposits and drainage-outlets of the city.

The soil should be porous and free from rank vegetation. Artificial should supplement natural drainage whenever necessary, and the level of the subsoil water should be lowered as much as possible. Moreover, this soil-water should not be the drainage from higher elevations, nor should barracks be located in or too near ravines, as it is known that malaria is often carried up the latter by the wind. Some shade-trees about the buildings may not be objectionable, but too many will interfere with the free movement of air and access of sunlight necessary for health.

Of course, these camp-sites must be such as may have a plentiful supply of good water, and every precaution must be taken to prevent this from being contaminated at any point from its source until it reaches the camp and its consumers. Though yellow fever is not often transmitted thereby, we must never forget that water is the customary carrier of the germs of typhoid fever and dysentery, and not rarely of malaria, all three of which are only to be less feared in this country than the first mentioned.

Fortunately, Havana has an excellent and abundant water-supply, and so, I believe, have most of the other larger Cuban cities. Camps in their vicinity should not, therefore, be at a loss to secure a sufficiency for every need.

Should it be necessary or be deemed wise to locate even a small garrison within the city limits, the location of its quarters should be made with forethought and judgment. Any existing buildings would better be completely torn down, all accumulations of filth and sewage thoroughly disinfected and removed, and the soil well under-drained. Barracks and other necessary buildings can then be erected and occupied with far less risk than will be had in any preexisting structures.

In the construction of the various buildings necessary for a garrison or camp of occupation, circumstances must govern many things and features. However, much may be learned from the experience that Great Britain has had in her various colonies, and we may adopt some of her lessons without hesitation or question.

She has found that it never pays to overcrowd, that there must be no interference with the free access of sunlight and air, and also that the buildings should be detached from one another, and best of not more than two stories in height. To this I would add that in Cuba it will probably always be well to have them considerably elevated above the ground to allow a free circulation of air beneath them, aiming in this way to promote dryness of both floor and soil, and to thus prevent the development and transmission of malarial diseases. A height of eight or ten feet above the ground will not be too much, and there should always be room enough, at least, to allow of thorough cleaning. All construction work of this kind must be done with thoroughness and with an idea of permanence, for it is in this way only that the best sanitary results can be obtained.

It will be noticed that it is assumed that barracks will be constructed at each camp-site. It is true that the exigencies of the situation may necessitate for a time and at certain places encampment under canvas, but this should be avoided wherever and whenever possible on account of the increased liability to malaria induced by sleeping so near the ground.

Again, as has been stated, no one now knows how long it may be necessary to maintain the garrisons in this island, and that which may seem expensive at first sight may be truly economical in the long run. Any saving of health and life in this or any other way will be repaid tenfold

financially in the reduction of the pension-list of the future. Great Britain has learned much from experience, but in spite of this the sick-rate of her Indian army, exclusive of native troops, for 1896 is by no means encouraging. From a total enrolment of officers and men numbering 70,484, there were 97,738 admissions to hospitals, or a rate of 1387.7 admissions per 1000, while the average number constantly sick per regiment was over 93, and the average sick time for each soldier exceeded one month. Can we expect to do better in Cuba? It will be only by the strictest observance and enforcement of every sanitary rule and precaution, and by increasing vigilance and care. And if we do not do better, who can measure the increase in the payment of pensions that will be demanded from the Government within the next ten years? The cost of the sanitary reformation and rehabilitation of the whole of Cuba will scarcely exceed it.

The construction of the barracks, hospitals, and other necessary buildings need present no very serious problems. As Notter says:[1] "Barracks have been in our (the British) army, and in many armies of Europe still are, a fertile source of illness and loss of service." The buildings should not be over two stories in height, and should not be designed to accommodate more than a single company of men in each. In fact, not more than one-fourth of this number, say twenty-four or twenty-five at the most, should be quartered in any one room, and each man should have ample floor- and cubic-air space. That is from fifty to sixty square feet of the former, and not less than 600 cubic feet of the latter. This means a ceiling height of at least twelve feet. The rooms should be narrow—twenty feet is wide enough—and with plenty of windows. Broad unenclosed verandas on at least one side of the house will furnish shade and give extra space and protection to the men in wet weather.

Nor should ventilation be dependent simply upon that which may be had through doors and windows. Notwithstanding the mild and equable climate of Cuba, there are times when it is quite cold, and when it is desirable to shut out the draughts and winds, and even to warm the incoming air. Special inlet and outlet flues and openings should be provided in every instance. These should not be larger than one square foot in section individually, but there should be at least one square inch for each 50 or 60 cubic feet of space, or from 10 to 12 square inches per man. This is exclusive of the chimney, which, of course, is adapted to the heating apparatus, but which should remove almost as much air per hour as the outlet flues. For heating apparatus, if any be required, it may be necessary to use stoves, but the so-called Galton or patent ventilating grates are preferable, inasmuch as they not only facilitate ventilation but warm the air before it enters the room.

These houses must not be located so near together that one will keep the sunlight from another, or that the free circulation of air will be prevented. Generally they should be built so as to expose the sides rather than ends to the prevalent winds, which, however, should not come from marshy or polluted localities.

[1] "Treatise on Hygiene," p. 918, P. Blakiston, Sons & Co.

Ample wash-rooms should be provided for each house and in connection therewith, and for these there should be a full supply of water that will allow of frequent and generous baths by all the men. To remove this water after use, a proper drainage system must be provided, whether water-closets are used for the latrines or not, in order that the soil under and about the barracks may be kept dry. But such drains should not be the same, nor should they be connected with those which are employed to drain the soil proper and to lower the level of the ground-water. Wherever possible the drainage from the wash-houses, water-closets, kitchens, and sinks should be carried to the leeward of the camp for at least three or four hundred yards, and had best be disposed of by sub-irrigation or intermittent filtration.

Whether the latrines would better be supplied with water- or with earth-closets is a matter of judgment depending upon several circumstances. The latter are often preferable and safer, provided proper supervision and good service in caring for them can be had. This means that the contents must be removed daily, and covered in trenches sufficiently deep with clean, dry, and absorbent earth. The latrines must be located in buildings separate from the barracks, but may be connected therewith by covered and well-ventilated passage-ways. They must always be kept scrupulously clean. For permanent barracks such as described the ordinary latrines of temporary camps are, of course, not to be considered.

Should the term of our military occupation prove a long one, the advisability of increasing the proportion of married men in the garrisons must be considered. Any such increase with the consequent presence of their families will demand the construction of separate quarters for them, the best type of the latter being low, one- or two-storied buildings, having suites of two or three rooms for each family. It goes without saying that the ventilation, water-supply, drainage, etc., of these must be as complete and satisfactory as the same features in the ordinary barracks.

So also with relation to all the other buildings belonging to the camp or site, such as officers' quarters, guard-house, storerooms, quartermasters' and commissary department, etc. In fact, the whole constitutes a community in which the sanitary provisions, apparatus, and regulations should be as complete and as carefully guarded and observed as in the most Utopian of settlements.

Involved in this must be the instruction of every individual not only in the observance of such regulations, but in the reasons for them, and his education in these matters should continue until he is convinced that his safety is absolutely dependent upon them.

The kitchen and mess-halls should not be in connection with any of the barracks or other quarters directly, but should be located conveniently to them. Here, also, thorough cleanliness and good ventilation should be had, and special precautions taken to prevent any infection or deterioration of any article of the food-supply. The best and safest disposal of the garbage will be by burning, and special cremation-apparatus for this purpose should be provided and used.

As in every model community, the hospitals and adjunct buildings must be located at a safe distance from the rest of the camp, and all unnecessary intercourse with the former must be prohibited. This is especially imperative in times of epidemics, for, besides the increased risk of infection, there is always the danger that the knowledge of many cases in camp may produce, on the one hand, reckless agnosticism and carelessness as to sanitary precautions, and, on the other, panic in the minds of the men. Likewise, the same rules of construction are to be observed here as elsewhere, though a larger amount than usual of cubic space per patient should be provided in the wards, inasmuch as Cuba is tropical in climate. Fifteen hundred or 1600 cubic feet per capita is by no means too great an allowance for ordinary circumstances. The wards should be designed to accommodate ordinarily not more than twenty-four men, but the whole hospital system should be capable of considerable expansion in times of emergency. The three essentials—perfect ventilation, plenty of sunlight, and convenience and efficiency of administration—should be kept foremost in mind in the building. Elevation above the ground is even more essential here than in the case of the barracks. Moreover, the arrangement of wards should permit of the total separation of patients having different infectious diseases, and isolated wards or barracks should also be provided for the detention of suspected cases. Another necessity is a complete disinfection-plant for the treatment of clothing and bedding.

The foregoing is an attempt to indicate the requirements of a model garrison-camp in tropical Cuba. Can we say that the establishment of such a camp would ensure the safety of all or most of its occupants, and protect them from the maladies which otherwise seem almost certain to affect them?

Undoubtedly, it would guard them in a large measure, and especially from such infection, as they most probably cannot escape by their own individual foresight and care. But, after all, a man's own safety is a matter even more intimately connected with his observance of the laws of personal hygiene, and is related to his diet, his clothing, his habits and idiosyncrasies and temperament. It is through the control of these that we can best hope to fend off the dangers that threaten so alarmingly, and it is these that we shall, therefore, next consider.

MEDICAL PROGRESS.

Sudden Death after Child-Birth.—Porak and Durante (*Gaz. heb. de Med. et de Chir.*, December 22, 1898) report the sudden death of a woman who was delivered after an apparently normal labor. There was only a slight loss of blood. On the fifth day there was an elevation of temperature of two degrees. The next day it was normal. There were no other symptoms. On the ninth day while taking her breakfast the patient fell from the bed, and was picked up dead. The autopsy revealed the fact of a double uterus (which had been recognized during life), and a single kidney. The cause of death was found to be a large embolus in one of the chief divisions of the pulmonary artery. This embolus had come from the right hypogastric vein, where there was a slight endophlebitis and a little thrombus. In the thrombus there were numerous colonies of the colon bacillus, and it was thought that this germ was responsible for the endophlebitis and the death of the patient. Infections run a different course according to the agent which produces them. That due to the streptococcus is marked by an elevated temperature, while the colon bacillus gives a latent infection, with little or no rise of temperature.

Position and Size of the Adult Stomach.—Rosenfeld (*Centralbl. f. Inner. Med.*, Jan. 7, 1899) asserts that the adult stomach when empty occupies an almost vertical position, and with the exception of its pyloric portion lies wholly to the left of the vertebral column. Its shape is that of a large reversed C. When it fills with food it swings more to the front. When the stomach becomes dilated it may retain this same position, simply lengthening, or it may assume a more horizontal position, still chiefly to the left of the vertebral column, or it may dilate, especially in its pyloric portion, in which case more of it will appear on the right side than in the other forms of dilatation. Blowing the stomach up with CO_2, or with air by means of a stomach-tube, is a most misleading procedure, as the part of the stomach which is evidently distended under such circumstances is the pyloric portion, the major portion of the organ being concealed by the ribs. Percussion and palpation are better means of investigation in certain cases. Far more exact, however, are the results obtained by the introduction of a soft catheter filled with shot. This sinks with certainty to the lowest margin of the stomach, and if the organ be then dilated with air and radiographed, a picture of the shape and position of the stomach is obtained which is absolutely reliable.

Apparatus for Exstrophy of the Female Bladder.—Bailey (*The Clinique*, Jan. 15, 1899) mentions a case of exstrophy of the bladder which caused the patient considerable suffering as well as constant annoyance up to her thirtieth year. An operation at the ninth year had been a complete failure. Many forms of apparatus had been tried and rejected. The urine which constantly flowed from twenty-eight minute openings in the everted bladder was caught in thick underclothing which had to be changed several times a day. Still the patient pursued her occupation as a teacher. The apparatus which Bailey devised, and which proved very successful, consisted of a receptacle made of aluminum and extremely light in weight; it was forged in one piece, and made to fit tightly at the fourchette and inner part of the thighs. It was ground out to permit a space just over the multi-openings of the bladder. The top part was not allowed to touch the body, thus allowing ventilation, a fault, the patient says, which existed in every other form of apparatus that she had ever tried. The bladder itself did not at any point come in contact with the aluminum. This metal withstands the corroding and oxidation of foul urines. From the most dependent part of the receptacle a tube collected the urine in a cheap thin rubber or oiled silk or paper bag which could be thrown away after use, and

outside of this for protection was a larger rubber bag reaching nearly to the knees. The whole device was held in place by rubber tubing about the thighs and waist.

Metrorrhagia of Puberty.—CASTAN (*Centralbl. f. Gyn.*, January 14, 1899) says that in the metrorrhagia of puberty, which occurs from the thirteenth to the sixteenth years, the bleeding continues almost without interruption from one period to the next. The blood is usually bright red and flows away without pain or leucorrhea. Examination shows that the pelvic organs are normal and not tender. The bleeding is the only symptom. The author attributes it to a dyscrasia due to an intoxication, and his treatment is directed to the strengthening of the whole organism by gymnastics, baths, etc., while arsenic and remedies to overcome the constipation are administered internally.

Vaginal Cysts.—GODART (*Centralbl. f. Gyn.*, January 14, 1899) describes two cases of vaginal cyst, one of supposed embyronic origin, which at the age of twenty-one years was found reaching from the right vaginal vault to the sacro-uterine ligaments. The other patient had borne a child eleven months before she applied for treatment, and the cyst as big as a hen's egg, which protruded from the vagina like a prolapse of the cervix was thought to have its origin in a thrombus which had undergone cystic degeneration after the birth of the child.

Effect of Castration upon Women.—PFISTER (*Centralbl. f. Gyn.*, January 14, 1899) has made an extended investigation into the results of castration upon women, examining and questioning 179 patients upon whom a complete operation had been performed for diseases of the tubes and ovaries, or, in one-third of the cases, for myoma or aggravated retroversion of the uterus. The results were in accord in great measure with those of other investigators, but Pfister worked out the subject so carefully that his conclusions are well worth repeating. Menopause followed in 94.8 per cent. of all cases. It did not follow in two cases of uterus unicornis, and the conclusion seems well founded that in these instances there must have been ovarian tissue in some unusual situation which was overlooked at the operation. Irregular hemorrhage followed in twelve cases. Leaving the operations for myoma out of the question castration had a favorable influence upon leucorrhea in eighty per cent. of the patients. In a large part of the patients the desire for intercourse and the sensuous feeling remained. This he explains on the ground that the desire only is due to the distention of the Graafian follicle in the ovary while the sensuous feelings are excited by the body contact. Both of these causes exert reflex action through the lumbar cord, but it is evident that in a married woman, especially in youth, the recollection of past gratification together with the cutaneous sensation may suffice to make the sexual act practically normal for a long period after the removal of both ovaries. This is not usually the case with unmarried women, or those whose vitality has been somewhat reduced by age or long illness. These facts show that the relations of the vagina and external genitals with the uterus and ovaries are not so close as is usually supposed. In the majority of patients castration was followed by an increase in weight. This was not like the portliness which accompanies the natural cessation of the menopause, but was a rounded, more girlish plumpness. In most of the cases the relief of pain and shrinking of the tumors was satisfactory. Hysteria was rarely benefited. Ventral hernia developed in nineteen patients.

THERAPEUTIC NOTES.

Operation for the Radical Cure of Hemorrhoids.—SCHIFF (*Med. Record*, December 31, 1898) advocates the treatment of hemorrhoids in the same manner that one would treat any other pedicled tumor, that is to incise the mucous membrane around the base of each hemorrhoid, to ligate and cut short the vessels, and then to suture over their stump the edges of the mucous membrane. If the masses of hemorrhoids are too large to remove individually, they are removed in four sections, and some mucous membrane must be left between each of the portions cut away, otherwise there is nothing left to suture. In cases in which there is danger of a stricture, it is advisable to suture transversely, so that the suture line shall be parallel to the sphincter. In ordinary cases, the anterior and posterior wounds may be sutured parallel with the bowel while the lateral wounds are sutured across it. The advantages claimed for this method of operation are: (1) The patient is well in from three to five days. (2) There is less pain during convalescence than follows any of the other operations. (3) By the fourth or fifth day the patient is able to attend to his business, which is a desideratum in these cases. (4) The only difference in time in performing this operation and the clamp and cautery operation is the time consumed in suturing. (5) There is less danger of secondary hemorrhage in this operation than in Allingham's or the cautery operation.

Action of Amyl Nitrite.—WINKLER (*Centrabl. f. Inn. Med.*, December 17, 1898) learned from experiments that the inspiration of amyl nitrite in many instances is followed by a lowering of the blood pressure in the arteries, due to their dilatation, and without any insufficiency of the left ventricle. Under such circumstances the effect of the drug upon the circulation may be favorable by reducing the work of the heart. Unfortunately, this stage of its action is usually of short duration, and is soon followed by an increase of pressure in the left auricle, showing insufficiency of the left ventricle. This condition soon results in swelling and stiffness of the lungs, and edema. From these results Winkler draws the conclusion that we must look upon amyl nitrite not merely as an agent for dilating the blood-vessels, but as one which if given in large amounts acts energetically upon the heart, and often in an unfavorable way. Hence the uncertain action of the remedy in angina pectoris. In the beginning of pneumonia the drug must be employed with the greatest caution.

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KIPLING'S ILLNESS.

For days the English-speaking people of two continents have awaited in almost breathless suspense the issue of the struggle between life and death made by the most popular genius of the end of the century. In the prime of manhood, with all his well-deserved honors falling thick upon him and the promise of a future difficult to fully appeciate, it was sad to think of him stricken down just as he had passed the threshold of his great career. The world has learned to appreciate genius in these days. It is no longer permitted that one should do the great work that is to be honored of posterity in a garret, to express its inspired message amid discouragement and then starve. The thrill of utterest sympathy that has vibrated through Humanity's great heart in two worlds at the prostration of the great young writer whose words have been a revelation to so many is a hopeful sign of the better understanding among men that these latter years are surely bringing with them.

In the midst of it all the silent unfailing forces of Nature have seemed so heartless and cruel. At a given moment it happens that the material with which is bound up the existence of the beautiful spirit whose emanations have stirred men so deeply becomes a favorable culture-ground for a little plant whose whole sphere of existence is bounded by an infinitesimal portion of almost undifferentiated protoplasm. Implantation takes place, and straightway natural forces foster the growth of the microorganism as if it were a favorite child, heartlessly, cruelly, regardless of the fact that that growth is at the expense of material that is informed by one of the brightest spirits to which the world has ever had the privilege of ministering.

Let us hope that the Purpose that runs through all the scheme has ordained the conservation to us poor mortals, for the present at least, of the poetic, truly creative spirit whose subtle magic has cast a spell over us all. We have all admired the magnificent fight he has made for life. As medical men we have been especially touched by the fact that the forces of Nature in him unmarred by wanton misuse have reacted for self-preservation in marvelous ways; that a past of pure clean living has been the basis on which good hopes of recovery could be founded when disease seemed almost inevitably about to triumph. Let us hope that the encouraging reports of Mr. Kipling's condition will be followed by others and still more favorable ones, and that he shall be spared to us and to another generation to which in the fulness of his power his words will be even more an inspiration and an illumination than they have been to us. *Ad multos annos.*

THE JENNER INSTITUTE—A CORRECTION.

Our London contemporary, the *British Medical Journal*, after the charmingly complimentary expression that "the Medical News is beyond question one of the best edited medical journals in the United States," calls our attention to an error of our London correspondent in associating the name of the late Sir William Jenner with the Jenner Institute of Preventive Medicine. We blushingly make the correction after such a compliment, and feel a little bit as if our correspondent's slip might, under the circumstances, be considered a *felix culpa* since it has afforded the opportunity for such flattering words from our distinguished contemporary.

HONOR TO WHOM HONOR IS DUE.

A few weeks ago in chronicling the death of Sir William Jenner, the distinguished English physician,

we copied from our English contemporaries the supposed fact that Sir William had first convinced the English-speaking world of the essential difference between typhoid and typhus fever. After reading Professor Osler's address on "The Problem of Typhoid Fever in the United States," which we published last week, we feel called upon to correct this misstatement. The enviable distinction of having clearly pointed out the differential diagnostic points in these two important diseases belongs to young American physicians whose studies under their great master Louis at Paris had prepared them for clinical work of a high order. This achievement alone should make their names precious to a grateful medical posterity.

Sir William Jenner himself was only too ready to acknowledge how much he owed on the subject to such men as Gerhard, Shattuck, and Bartlett, and to recognize the fact that he was about to attempt the accomplishment among the profession in England of what these men had already done in America. When he was battling for the acceptance of the advance that had already come in American medicine, a committee had been appointed by the New York State Medical Society to still further elucidate the subject of fevers and note any clinical entities apart from those already recognized. The outcome of the investigation of that committee was, as Professor Osler notes, Flint's classical work, "Clinical Reports on Continued Fever."

"There were giants in those days," and their memory must be ever fresh among us. For their painstaking investigations, so successfully conducted amid all the discouragements to exact clinical work at that time will be an inspiration to generations to come, when American genius shall claim her place in the forefront of medical advance as she has in all the other great movements in which we have become seriously interested.

A DIAGNOSTIC TRIFLE.

"TRIFLES make perfection, but perfection is no trifle" was an expression that occurred in Sir Henry Irving's lecture on "Acting," delivered at Harvard some years ago, and had quite a vogue at the time because of its applicability to so many arts. It would seem to be nowhere more true or more apt than in the science of diagnosis.

It is a well-worn theme that errors of diagnosis are oftener due to the missing of some important link in the diagnostic chain because of hurried or negligent examination, in which some seemingly trivial and insignificant detail escapes notice, than to any lack of knowledge. Exact diagnosis is the result of careful, painstaking application of well-known principles in their utmost detail. Every smallest circumstance may be of the greatest value in coming to a correct decision in the matter and it is the capability of catching the significance of trifles that makes the successful diagnostician.

The improvements in diagnosis in our day are not the applications of new principles but the discovery of the significance of hitherto unsuspected, perhaps unnoticed, conditions. Professor Lampadarios of the University of Athens seems to have hit upon one of these diagnostic trifles. It gives promise of much significance. He has noted in a number of cases of incipient phthisis at an early stage, before bacilli in the sputa are of pathognomonic import, that there is sometimes a râle to be heard at the apex of the lung when the patient is reclining which disappears when he assumes the erect posture. He attributes this to the fact that when standing the diaphragm is principally used for respiration and the lower portions of the lungs take more part in the act than the upper portions. Especially is this true in delicate patients whose muscular development is not great and whose general condition has deteriorated. As a consequence of this, while the patient is erect there is not enough movement of the lungs to properly bring out the râles. While lying down, however, there is not the same reason for the preponderating action of the diaphragm, and, moreover, certain accessory muscles of respiration not vigorously employed in the erect posture have better points of support while the patient is lying down.

These cases of suspected incipient tuberculosis are usually ambulatory. When they come to the doctor's notice the patients are ordinarily examined standing. Professor Lampadarios' experience seems to show that it is possible under these circumstances to miss the very early signs of pulmonary tuberculosis. As the success of therapeutics in the disease depends very largely on early diagnosis and every day is of importance in the matter the significance of the announcement becomes apparent. It has always been

recommended to examine patients suffering from pleurisy or heart disease in the recumbent position; it would seem now that patients with incipient phthisis will have to be treated in the same manner.

PHYSICIANS ON A STRIKE.

IN Germany last fall there was presented the unusual spectacle of a "strike" among physicians. That university graduates should resort to a means of maintaining their rights which has hitherto been the weapon of those who labor with their hands, has excited no little criticism. To understand the condition in which the doctors were placed it is necessary to remember that the poorer classes throughout Europe are banded together for medical purposes into lodges. In France it has been estimated that there are 200,000 of these lodges, and the medical journals of that country are just now up in arms because the managers of these lodges have reduced the age at which a child may be admitted to membership from the sixteenth to the fourteenth year. In Germany it has been customary for the physicians of a given locality, or a part of them, to act as lodge doctors, receiving a stipulated fee for each visit made. The usual fee is one mark (25 cents), for a visit, and one-half that sum for an office consultation. The size of the fee was not, however, the cause of the quarrel between the management of the lodges and the physicians. Some of the most progressive lodges have been introducing what is known as Landmann's system. In accordance with this plan, the lodge engages one or more physicians as may be needed, at a stipulated price, and with the agreement on their part that they will not engage in other practice, while the members of the lodge promise in return that they will not consult any other physician either for themselves or for any member of their families. It was against the introduction of this system that the physicians in Barmen and Remscheid struck. In the latter place they lost their case as the management of the lodges held firm and imported seven young physicians to attend to the health of their members. In Barmen the local physicians were more successful, and with the help of a part of the members of the lodges who were loyal to them, they forced the management to abandon the plan for two years. The tendency seems to be toward the formation of larger combinations of lodges under one management, and on the other hand, in Berlin there is a society of lodge physicians whose object is to look after their common interest.

Perhaps no activity in a community is so wastefully carried on as that of looking after the wants of the sick. Many a physician spends more time in getting about from place to place than he does in doing the actual work for which he is called; while patients travel half way across the continent at great expense to consult some man who may or may not be better fitted to advise them than some one much nearer home. The application of the same methods which have made business and manufacturing concerns grow larger and larger, may one day result in the formation of a medical trust. The preliminary problems are being worked out in Germany at the present time.

The same conditions prevail in England to a less extent, and the *British Medical Journal* of December 10th, laments that any physician in Skipton should be willing to look after the health of the members of a "club" at the rate per year per member of only three shillings. Some of the Skipton physicians held the same opinion and gently whispered "four shillings, please," but the managers of the club said "If you do not like three shillings, we shall get some one from out of town," and the local doctors said no more. The *British Medical Journal* counsels "a little more professional union, which will replace such rates as three shillings or four shillings per member per annum, by those of six shillings to eight shillings. It is often a wise step for the local profession to form a dispensary for their poorer patients in opposition to any medical institute organized by the friendly societies." Dispensaries have been used for all sorts of objects, but here is certainly a novel plan—to start a free dispensary in order to compel a charitable organization to pay higher wages.

MAGNIFICENT ENDOWMENT FOR RESEARCH IN INDIA.—A LESSON.

THE English newspapers have recently announced that Jamsetji Tata, a wealthy native Indian, has given £250,000 ($1,250,000) for the establishment of a teaching university and research institute in India. The scheme of studies and investigation provides for a triple division of the subjects to be

worked at. (1) Scientific and technological, (2) medical and sanitary, (3) educational and philosophical. The new institution is to do post-graduate work entirely, and is not supposed to interfere at all with existing universities in India. The medical and sanitary departments, it is expected, will be given special prominence, and it is hoped that the work done will go far toward making the Indian peninsula more inhabitable for its own sake and less of a danger to the outer world because of the contagious diseases it may foment.

The announcement is of special interest to us as Americans because, it is added, the new institution is to be modeled, in its general features, at least, after our own Johns Hopkins University at Baltimore. The compliment is a most flattering one, but not more than is deserved by the University, whose thorough scientific methods, whose advanced but conservative workers, whose adoption of what is best in the most practical modern pedagogic lines, and whose success in teaching and original investigation have added greatly in these last few years to America's reputation both in England and on the Continent.

To Johns Hopkins we say *Macte virtute.* To American institutions which would look abroad for models for their teaching methods and scientific departments we are tempted to repeat an old saw, *si vis examplar circumspice.* Let us hope that the modern prophet in scientific and educational matters will not be without honor save in his own country. We in America are seemingly just entering on an era of unexampled prosperity. Good times will see the foundation of many a scientific institution and the development of others. May we hope that foundations and endowments will be directed to as good a purpose, and the policies of the institutions they conserve be managed with an eye as single to true scientific progress in pedagogy and investigation as has been the case at Johns Hopkins, *ad majorem scientiæ gloriam.*

ECHOES AND NEWS.

The Wrong Tooth.—A medical practitioner in England was sued recently for £25 damages for extracting the wrong tooth. It seems there was a bony growth at the root of an aching molar which was either adherent to or projected beneath the neighboring tooth. When the bothersome tooth was extracted the other came with it. Judgment was for the defendant with costs.

An English Hospital in Rome.—The English colony in Rome has determined to found a hospital in that city for the benefit of English residents and visitors. The estimated cost for erection and equipment of the new institution is £7000. Nearly the whole of this sum has been already raised. It is confidently hoped that the hospital will be ready for the reception of patients at the beginning of next year.

State Aid for Deaf-Mutes.—Various institutions in New York State for the care of the deaf now receive from the State $223,226 a year. There is a new educational bill pending in the State Legislature which seeks to compel the State to pay for the maintenance of all the pupils in schools for the deaf and blind. This bill, if passed, would add $200,000 to the above-mentioned expenses now incurred by the State.

A Physician's Gold Fetters.—One of the earliest fees for medical treatment of which there is any record is mentioned by Herodotus, who says that Darius gave the slave Democedes two pairs of gold fetters. The usual fee at that time in Greece was very small, about sixteen cents in our money, yet there were notable exceptions, as when King Antiochus paid $150,000 for medical treatment, and later, when the Emperor Claudian paid his physician about $20,000 a year. The latter was twice the annual income of the eminent physicians of that time.

Alkaline Glassware.—A German chemist calls attention to the fact that certain test-tubes, beakers, and the like, made in Germany, are so alkaline in character that they impart some of this quality to liquids placed in them. The vessels are said to be well made and to be of very clear glass but it is evident that they might easily be the source of serious error. They would be especially liable to mislead medical men who have not the means at hand of making control observations and might in certain cases give data that would be the source of uneasiness.

The Swiney Prize.—This has just been awarded to Dr. J. Dixon Mann, Professor of Forensic Medicine and Toxicology in Owens College, Manchester, for his work on "Forensic Medicine and Toxicology." The prize is a very valuable one (almost $1000). It consists of a silver goblet of the value of £100 and money to the same amount. The prize is given each alternate five years for works in English on general jurisprudence and medical jurisprudence. The award is made by a committee from the Society of Arts and the Royal College of Physicians of London.

Deaths from Ether as an Anesthetic.—In a review of Dr. Bell's pamphlet on "The Safety of Chloroform as an Anesthetic," the London *Medical Press and Circular*, January 25, 1899, states that there have been no less than fifty-four deaths from ether used as an anesthetic during the year 1898 in England alone. This is a strikingly large number, and is certainly more than the advocates of ether anesthesia usually admit into their statistics of the subject. Can our contemporary give the facts that

substantiate its statistics? The subject is a most important one.

Obituary.—Dr. Robert Harris, a well-known figure in Philadelphia medical circles, died at his home in Philadelphia, February 21, 1899. He was the son of a physician, the brother of William Harris, formerly president of Princeton College, and the grandson of Robert Patterson, a former provost of the University of Pennsylvania. Dr. Harris was born in 1822, and was the author of a number of articles in medical journals, and the editor in this country of "Playfair's Midwifery." In recent years he has been known for patient statistical research on the subject of Cæsarian section, extending his enquiries to the after-health of the mother and the length of life of children thus delivered.

New York as Seen in Vienna.—The *Klinische therapeutische Wochenschrift* of Vienna begins the year with an article on the epidemic of grip in New York. The writer says that owing to the undiminished spread of the disease the Board of Health was compelled to take extreme measures for its control. Among others he mentions the following: The fumigation of the street-cars, and the disinfection of all the mats and carpets in them; the closure of the Medical Department of Columbia University on account of the sickness of eight professors and numerous students; the closure of the Wallack Theater, and finally, the prohibition of kissing, though whether with or without a penalty was unknown to the writer.

Prevention of Tuberculosis Discussed.—A committee representing the International Congress for the Prevention of Tuberculosis, which will sit in Berlin from May 24 to May 27, 1899, under the patronage of Empress Augusta Victoria and the Honorary Presidency of the Imperial Chancellor, Prince Von Hohenlohe called recently at the United States Embassy to enlist American interest and cooperation in the undertaking. Dr. C. W. Stiles, scientific attaché to the United States Embassy, is preparing a report for the medical press on the scope and purpose of the congress, whose main object is to devise ways and means of combatting tuberculosis, especially as a popular scourge. Emperor William will entertain the members of the congress.

A Princely Surgeon Honored.—The far-famed ophthalmologist, Duke Carl of Bavaria, has recently been honored by an election to honorary membership in the Academy of Medicine of St. Petersburg. He has just passed his sixtieth birthday, and during the present winter has given a large share of his time to the conduct of his eye-clinic in Munich. His brother, Prince Ludwig Ferdinand, who is also a medical graduate, has lately been promoted to the rank of general of cavalry. He, however, only saw active service in the rank of lieutenant, while his brother, Duke Carl, commanded his wing of a cavalry regiment as major. Prince Ludwig receives patients in his palace in Munich, and is a visiting physician of the University clinic. On account of one of his children being ill with an infectious disease, he has refrained from all attendance upon social functions for a month or more.

An Unpardonable Fault and Its Punishment.—A telegram in the *Morning Leader* of London announces, according to the *Medical Press and Circular* (London), that Professor Wiggin of the College of Physicians of Chicago has been suspended from his professional chair because in one of his lectures on pathology he described woman as a "two-legged dyspeptic owl," and said that the "female form divine" is the climax of Nature's irony. One London contemporary remarks that "of course the women's clubs are up in arms at such an insult." It does not state the nature of the clubs the women have taken in their arms, but they should at least be studded with nails to avenge so dire an insult properly. It was somebody in the "wild and woolly" West who inflicted that other definition of woman on a long-suffering world "a constipated biped without feathers." Of course these ungallant remarks deserve condign punishment. We are glad our London contemporary takes the whole affair so seriously for, of course, it is for peccadilloes like this that we hire and discharge our medical professors in America, not for any supposititious scientific talents or attainments that they possess.

A Physician's Rare Good Fortune.—A decision in a Surrogate's Court at Kingston, N. Y., settles a dispute as to an inheritance of a quarter of a million dollars. It arose out of a will in which the testator left his entire fortune to his physician. It was disputed by the testator's half-sister who claimed it as being the nearest relative. The evidence showed that the testator was taken ill while spending a few days at a hotel at Kingston. He sent for a physician, who, in spite of the fact that his patient was poor and unable to pay full fees, watched him through a serious illness and gave him the most devoted attention. The patient after his recovery remained at Kingston to be near his physician whose kindness had won his affection. Quite unexpectedly, an uncle, who during his life had taken no notice of the patient, died leaving him his entire fortune. He was anxious then to show his gratitude to the physician and upon his death, which occurred recently, the latter discovered that his friend had left him the amount mentioned above. The reason assigned for the bequest is that the physician befriended him when he was poor and when all his relatives neglected him. The decision of the Surrogate upholds the will.

A Hygienic Decalogue.—We clip the following from the *Lancet* for February 11th: Dr. Decornet of Ferté sur Aube, France, is announced as the winner of a prize offered by the extensive and well-known publishing house of Hachette & Co. for the ten best maxims for preserving the health, which were to be published in the "Annual Almanac" issued by the firm. These are the prize maxims: (1) General Hygiene: Rise early, go to bed early, and in the meantime keep yourself occupied. (2) Respiratory Hygiene: Water and bread sustain life, but pure air and sunlight are indispensable for health. (3) Gastro-Intestinal Hygiene: Frugality and sobriety are the best elixir vitæ for a long life. (4) Epidermal Hygiene: Cleanliness preserves from rust; the best kept machines last longest. (5) Hygiene of Sleep: A sufficiency of rest

repairs and strengthens; too much rest weakens and makes soft. (6) Hygiene of Clothing: He is well clothed who keeps his body sufficiently warm, safeguarding it from all abrupt changes of temperature, while at the same time maintaining perfect freedom of motion. (7) Dwelling Hygiene: A house that is clean and cheerful makes a happy home. (8) Moral Hygiene: The mind reposes and resumes its edge by means of relaxation and amusement, but excess opens the door to the passions, and these attract the vices. (9) Intellectual Hygiene: Gaiety conduces to love of life, and love of life is the half of health; on the other hand, sadness and gloom help on old age. (10) Professional Hygiene: Is it your brain that feeds you, don't allow your arms and legs to become anchylosed. Do you dig for a livelihood, don't omit to burnish your intellect and elevate your thoughts.

SPECIAL ARTICLE.

THE "LANCET" AND QUININ IN MALARIA.

THE London *Lancet* of February 4th, before it had seen our answer, we suspect, comments approvingly on Dr. Hare's criticism in the *Medical Record* of our position with regard to the use of quinin in malaria and especially as to its use in black-water fever, malarial hematuria or hemoglobinuria. The *Lancet* considers that Dr. Hare is very sensible in echoing the caution which Koch has lately given with regard to the use of quinin in malarial hematuria, "a caution, indeed, which had been given before by many writers in America and especially by many physicians in the States."

Our views on the subject have aroused a good deal more attention than we anticipated. We do not pretend to any profound knowledge of the subject gathered from our personal experience. We stated practical conclusions for the benefit of the general practitioner based on the opinions of thoroughly conservative experts in the treatment of malaria.

We shall now quote more fully the authorities substantiating our position and ask a candid judgment as to whether it is not the only position possible for an unprejudiced medical editor to hold: Osler in the last edition of his "Text-Book" adds to his article on malaria the following clearly expressive paragraph which was evidently penned after consideration of the articles called forth by Koch's declarations regarding his experience in South Africa. "An interesting question is much discussed whether quinin does not cause or at any rate aggravate the hemoglobinuria. We have not yet seen a case in which this condition has occurred as a result of the use of the drug. It seems localized in certain sections and Bastianelli states that it is not seen in the Roman malarial fevers. He recommends that in any case of hemoglobinuria if the blood shows parasites quinin should be administered freely. In the post-malarial forms quinin aggravates the attack. In the active malarial infection the patient runs less risk with the quinin."

In the *Lancet* for December 24th there is the discussion of a case of malarial hemoglobinuria before the Pathological Society of London. Dr. W. H. Crosse says of his patient: "In spite of his improving under quinin he had a slight relapse of the hemoglobinuria which disappeared while he was having still larger doses of quinin." Dr. Crosse was until recently the chief medical officer to the Royal Niger Company of Central Africa. He has had an extensive experience with malarial hemoglobinuria including a number of attacks of the disease himself. He discussed this subject at the opening of the medical session at Guy's Hospital last fall (see *Brit. Med. Jour.*) and completely disagreed with Koch. He attributed his own attacks of malaria to his failing to take quinin. He tells the story of a friend who foolishly decided against the use of quinin and suffered a very severe attack from which he was saved only by the free use of quinin. He insists that his friends going to Central and South Africa shall have no foolish notions with regard to any possible harm produced by quinin during the course of the affection.

Dr. Moffat, principal medical officer of the Uganda Principality, writes to the *British Medical Journal* of September 24th as follows: "Professor Koch may be right when he says that quinin poisoning causes hemoglobinuria. I do not possess sufficient knowledge to criticise that statement. This much I will say, that after seven years in Eastern Equatorial Africa, during which time I have treated many hundreds of cases of malaria, I have never seen a man die of fever when quinin was given properly and early in the case. The fatal cases whether complicated with hemoglobinuria or not have all been those in which for some reason quinin was not administered, or was given in very small doses or else resorted to only when the case was practically hopeless.

"Out of nine cases of black-water fever which I have had two were fatal; in both the administration of quinin was neglected until too late. All the cases which recovered were treated with heroic doses of quinin with one exception. In this one case 30 grains of quinin were given in the twenty-four hours and the attack lasted four days, the hemoglobinuria subsiding gradually. In the other cases 60 to 120 grains in the twenty-four hours were given and the hemoglobinuria only lasted from twenty-four to thirty-six hours, stopping quite abruptly."

Laveran in the last edition of his book on "Paludism" says: "It is *always* necessary to resort to quinin for the treatment of acute paludism when we wish to break up the fever and especially in grave cases." Further on he continues: "The rarity of quinin hemoglobinuria shows that an individual predisposition is necessary for it. Malaria is only an accessory (adjuvant) cause. Sulphate of cinchonidine does not give rise to hemoglobinuria according to Pampoukis, and ought to be substituted for quinin in patients liable to it." Laveran, it may be seen, does not feel able, even in patients with an idiosyncrasy, to advise a radical departure from cinchona-bark treatment in some form.

Next we came to the question of the influence of quinin on the kidneys. The *Lancet* quotes with approval Professor Hare as saying that according to writers of experience quinin in full doses has similar effects (nephritis,

fatal malarial hematuria, and glomerulitis have been mentioned just above, and to all, or at least to some of these, the reference is made). "These effects are brought about by quinin producing renal congestion and inflammation." We should like to know some reliable authorities for this startling statement of the *Lancet*. If full doses of quinin produced renal inflammation Italy would be overrun with nephritis. So would all the malarial countries. The fact is that nephritis is no more frequent in malarial countries where quinin is used freely than it is elsewhere. Hirsch, the medical geographer, made a special study of this subject years ago, and his conclusions have never been contradicted. The *Lancet*, unwarrantably it would seem, is lending the weight of its authority to an opinion liable to do a great deal of harm when it states that quinin in therapeutic doses ever produces nephritis except in the rare cases in which idiosyncrasy exists.

Laveran discusses in his book (before mentioned) the complications to which the use of the salts of quinin may give rise. He mentions toxic symptoms, hemoglobinuria, icterohematuria, cutaneous eruptions, visual and auditory phenomena, and oxytoxic properties, but says not a word of nephritis. Rem Picci, who made a study of nephritis complicating malaria in Rome, and who has collected the statistics of over 7000 cases of malaria that occurred in the Roman hospitals during the last four years said in *Il Policlinico* last year:

"The treatment of the kidney affection (of malaria) is the same as that of the malaria itself. Quinin, which according to some authors, causes albuminuria and hemoglobinuria is not contraindicated, but on the contrary is indispensable. These symptoms occur with or after the malarial paroxysm and before the employment of quinin, they get worse with every new attack and disappear with the malaria itself after the energetic use of quinin."

We sincerely hope then that the omniscient editor who sits up aloft in the *Lancet* offices and dictates, without quoting his authorities, *ex cathedra* conservative opinions to an inexperienced medical public, will let us share in the special illumination on this subject vouchsafed to him. The subject is an extremely interesting and important one. Let us have the facts and the figures to demonstrate why we should hesitate to use full therapeutic doses of quinin whenever there is active malaria despite the presence of nephritis, of albuminuria, or of hemoglobinuria. As far as our researches into the literature of the subject go the authorities, who speak from experience, are on the other side.

For Obstinate Constipation in Acute Meningitis the following mixture is recommended as suitable for administration to a child:

℞	Ol. tiglii	*m.* ii
	Mucilag. tragacanth.	q.s.
	Syr. zingiberis	ʒ i
	Aq. dest.	℥ ii.

M. Ft. emulsio. Sig. One to two tablespoonfuls every fifteen minutes until the bowels act.—*Barthez* and *Sanné*.

CORRESPONDENCE.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

A NOTE ON THE PRACTICAL USE OF HYPNOTISM—THE DIAGNOSIS OF ACUTE TUBERCULAR INFECTION FROM PNEUMONIA AND TYPHOID FEVER—SOME RECENT CHARITIES—HOSPITAL NOTES—PERSONAL NOTES—OBITUARY—HEALTH STATISTICS.

PHILADELPHIA, February 28, 1899.

AT a meeting of the Philadelphia County Medical Society held Wednesday evening, February 22d, Dr. J. Madison Taylor read a paper, entitled "A Note on the Practical Use of Hypnotism." Hypnotism is earning a place as an auxiliary to medicine and when its halo of humbug is removed it will be used more. The chance danger to be feared is that the physician using it will be branded as a charlatan—of danger to the patient there is practically none.

Dr. Taylor, after obtaining the consent of his patient, closes the eyes and finds that this is sufficient if he has the cooperation of the patient to the point of actual impulse. Among the successful cases he has treated were those of subjects suffering from alcoholism, the drug-habit, hysteria, insomnia, hysterical paralyses such as deafness and blindness, and from disorders due to disturbed functions. Several cases were detailed and in one patient Dr. Taylor said he had tried the effect of hypnotism upon the vasomotor system with the following result: He suggested to the hypnotized patient that one hand be cold, the other warm; this being successful he suggested that the cold hand be now warm and the warm hand cold, which he claimed was also successful. He then exhibited a girl, whom he called "the residuum of the gynecologic art," who was quickly put in a condition of apparent sleep and as easily wakened. Dr. Taylor said he would not pretend to give any explanation as to how the phenomenon occurred or why.

Dr. Charles K. Mills discussed the question and said that while he had brought the subject to the Society's notice some twenty years ago he had never had much success with it and while he could not say it was of *no* value, he thought its use limited and doubted if any permanent good follows its use in alcoholism- and drug-habits or if it is ever of value in melancholia.

Dr. Francis X. Dercum expressed views similar to Dr. Mills' and spoke also of the hypnotic-habit which those hypnotized frequently develop, a habit in which they bother the hypnotizer by continually wishing to be hypnotised. His explanation of the phenomena is that the neurons retract their processes, or means of connection, as they do in sleep, except those used for the sense of hearing. The neurons are made to retract these processes by fatigue on the part of the patient, induced either by staring at some object or by thinking intently on some one subject. He believes too that "conscious suggestion," when all the channels to the brain are open, should and does accomplish more than hypnotic suggestion when only one channel, that of hearing, is open.

Dr. Charles W. Burr then gave a history of mesmerism and hypnotism and quoted many clever tricks used by charlatans and others to deceive the public and as an example asked what evidence there was to show that Dr. Taylor's patient was not shamming. He did not deny hypnosis but agreed with Dr. Dercum and Dr. Mills in believing that very little if any good is accomplished by it.

The question was then discussed by Professor Newbold of the University of Pennsylvania, and Dr. Orville Horwitz, who said he had removed tuberculous glands of the groin from a professional hypnotizer's assistant without the aid of any anesthetic after the patient had been hypnotized by the professional. Dr. Hare related some observations made by himself and Dr. Martin when doing some experimental work with hypnotism on animals. Dr. Daland believes it should be against the law to practise hypnosis.

The Veterinary Department of the University of Pennsylvania has received a legacy of $5000 by the will of the late Josephine Lippincott and St. Agnes' Hospital and St. Mary's Hospital each $1000 by the will of the late John H. Mullin. Mrs. Elizabeth L. Devine has left an annuity of $1000 to the sisters of St. Joseph's Hospital, and the residue of her estate after other bequests are paid is to be divided among St. Mary's, St. Agnes', the Episcopal, and the German Hospitals.

An addition to the Easton Hospital, costing $12,000, increasing the total number of beds fifty-four, was opened on Washington's Birthday. There is also a childrens' ward containing twelve beds.

Professor William Libbey of Princeton on Washington's Birthday gave an illustrated lecture on the Peary Relief Expedition to the students of the Jefferson Medical College.

Dr. J. Chalmers DaCosta has been appointed surgeon to St. Joseph's Hospital in the place of Dr. John H. Packard who has resigned.

Dr. Matthews of Louisville, President of the American Medical Association and Dr. Long, Professor of Therapeutics at the University of Buffalo, were introduced last week by Dr. H. A. Hare to the senior class of Jefferson Medical College to whom Dr. Matthews made a brief address on the duties of the physician.

The number of typhoid-fever cases has again increased to an alarming figure, no less than 421 *new* cases having been reported this week against 287 the week before, an increase of 134. The total number of deaths occurring in Philadelphia during the week ending February 25th, as reported at the Health Office, was 618, an increase of 91 over the previous week and of 150 over the corresponding period of last year. The total number of new cases of contagious diseases was 506, reported as follows: diphtheria, 52 cases with 16 deaths; scarlet fever, 33 cases with 1 death; typhoid fever, 421 cases with 38 deaths.

Health Report, New York City.—For the week ending February 25th: Diphtheria, 184 cases, 24 deaths; scarlatina, 170 cases, 18 deaths; tuberculosis, 281 cases, 194 deaths; typhoid, 18 cases, 7 deaths.

MEDICAL MATTERS IN CHICAGO.

[From Our Special Correspondent.]

METHODS OF CHILD-TRAINING—CHARTER OF INDEPENDENT MEDICAL COLLEGE REVOKED—FILARIA SANGUINIS HOMINIS—SKELETON IN MEDICO-LEGAL ANATOMY.

CHICAGO, February 26, 1890.

THE Chicago Board of Education will be asked to take the initiative in new methods pertaining to child-training. A proposition has been made to ascertain the physical endurance of the children in the public schools by Dr. W. S. Christopher. It is based upon the theory that at certain ages children are more liable to fatigue than at others, and that during such periods the requisite is comparative rest. Investigations by Dr. W. O. Krohn of the Hospital for the Insane at Kankakee, conducted among 32,000 children, have indicated that at the age of eight years the fatigue period of a child is at its highest. From that age it decreases. Investigation also shows that the fatigue-period recurs in cycles during the day, generally in the morning between the hours of ten and eleven. If these results are substantiated by the tests which Dr. Christopher hopes to have introduced into the Chicago schools, some changes in the course of study will present themselves as necessary. It will seem advisable to have the studies of the third grade, which the child reaches at the age of eight years, made lighter, and to have the lighter instruction of the day come at the hours at which the fatigue is noted to be the greatest. The tests consist of measurements, weighing, and of the enduring power of the muscles.

Diplomas entitling their holders to practise medicine are no longer to be issued by the Independent Medical College of this city, unless the judgment recorded recently in Judge Baker's court is overruled by the Supreme Court. The court finds the defendant college guilty of issuing illegal diplomas, as charged in the quo warranto proceedings, and has revoked the charter of the institution. It is said that motions for a new trial and for arrest of judgment were overruled, but an appeal to the Supreme Court was allowed.

At a meeting of the Chicago Medical Society, held February 15th, Dr. J. O. Nelson read a paper on the subject of filaria sanguinis hominis, and presented two mounted specimens of the hematozoon which were in the chylous urine of the patient. The case is of peculiar interest inasmuch as the patient has always been a resident of the United States, having been as far South as Florida, but never having been in a foreign country. The history is as follows:

Mr. R., aged sixty-six years, a resident of Indiana for the past thirty years. Previous to this was a resident of Ohio. In the latter State he was afflicted with malarial fever of the intermittent type to a severe degree, and was only relieved by change of climate when he moved to Indiana. No date of infection can be discovered except mosquito-poisoning, malaria, or the fact that nearly ten years ago he drank from a well which contained dead organic material and which caused him to immediately vomit, showing its extremely poisonous character. Early

in 1898 the patient had a severe attack of catarrhal jaundice, which jaundice was very slow to disappear, and was attended with enlargement of the liver. Early in the fall of 1898 the patient was attacked with a violent impetigo, together with an extreme hyperesthesia of the skin. There also developed a peculiar form of darting pains which occurred in any part of the body, or extremities, only lasting a few seconds, but being knife-like in character.

The patient is a well-preserved man; has absolutely no specific history, and is of very temperate habits. Physical examination shows internal organs normal, except for a little tenderness over the gall-bladder. Lymphatic swellings exist on the ankles with a tendency to break down, and abscess. Periosteum over both tibiæ thickened, the ankles edematous. During the past summer the patient developed a tendency to drowsiness to such an extent that he has trouble to keep awake during the daytime, this being entirely unnatural as he is of an energetic and active disposition. Several times last summer he noticed that he had no desire to micturate from morning until night, and the edema of the ankles increased. About November 1st his first hematuria occurred in the evening, and the next day the urine was of a chylous character, but Dr. Nelson found no filaria in these specimens. The first specimen of urine he examined was milky, specific gravity 1020, alkaline, and in each drop of the precipitated specimen from one to three active worm-like bodies, in constant motion, from 1/100″ to 1/200″ in length, easily examined under the low power, and these worm-like bodies he pronounced to be the embryos of filaria sanguinis hominis. Up to the present time he has not succeeded in finding the female parent worm.

At a recent meeting of the Chicago Medico-Legal Society, the subject of the skeleton in medico-legal anatomy was discussed, and the most interesting feature of the discussion was the remarks of Dr. William T. Eckley, who, in part, said: (1) There is no difficulty in identifying human bones if the whole human skeleton be present, anthropoid to the contrary notwithstanding. (2) The smallest fragment of bone can be identified microscopically even in the absence of Haver's canals. (3) In case of fragmentary bones the medical expert should advance no opinion as to the precise origin, but content himself with stating whether or not said fragments are bone. (4) If there is firm bony union of all the epiphyses, if the greater number of the emissary foramina are closed, if the constant foramina are shown to exist, if the secondary foramina are demonstrable, if the bones are solid and their muscular attachments well marked, then our conclusion is, these bony remains are of an adult human being. (5) In the determination of sex the pelvis is the chief guide, but little or no evidence is furnished by the pelvis before puberty. After puberty, even when the entire pelvis is recovered, only a very guarded opinion should be given as to the sex of the individual. (6) The prognathous skull of the negro, the pyramidal skull of the Asiatic, and the oval skull of the Caucasian, wanting in marked prominences and undue compressions is everywhere conceded in determining racial generalizations.

Conclusions.—(1) Given a sexually known skeleton, certain minor differences are found in the majority of cases between male and female skeletons; but given a sexually unknown skeleton, these minor differences become probabilities only subject to such grave exceptions as to render testimony practically useless, bombastic and even dangerous in forensic medicine. (2) While the pelvis is the chief guide in determining sex, still evidence founded thereon can be no more than presumptive and circumstantial, a bad variety of the poorest class. (3) In identifying individual bones, at least some one well-marked characteristic point should be present to make good evidence. Each bone has characteristics. Fragments of bone possessing characteristic features of individual bone make reliable testimony. A femur may be identified by a fragment no bigger than a dime, providing the tereal impression is present. The lacrimal crest, the vidian canal, the facial canal will identify respectively the bones to which they belong. The absence of characteristic markings makes medical testimony more culpable and far more dangerous than the average homicide. (4) Transition from compact to cancellous bone is easy, logical and gradual. (5) Pneumatic cancellous bone has a demonstrable lining when recent. Its irregular smooth cells cannot be mistaken for cancellous non-pneumatic bone tissue. (6) The practicability of introducing bones in the identification of sex is questionable, since some females are skeletally male and vice versa; such testimony is pernicious since the bone offered in evidence may have been of this class. (7) If sex can be identified by a fragment of bone, why cannot the liver and stomach, the heart and appendix, the kidney and brain be introduced in evidence with even greater propriety? These are studied both microscopically and macroscopically much more exhaustively than bone. Still in all the annals of law and medicine no such precedent can be found. (8) Sesamoid bones are in shape, constancy and development the most variable bones of the skeleton. They owe their existence to heredity, their development to muscular action. The shape of the articular surface corresponds inversely to the shape of the articular surface of the bone with which it articulates. Sesamoids are found in the tendons of some muscles where transmission of power is needed with maximum mechanical advantage, *e. g.*, the patella or knee-pan, the two in the flexor brevis hallucis pedis, and in the flexor brevis hallucis manus, in the peroneus longus. They bear no definite proportion to the size of the individual, since an adult of 150 pounds, who has used the sesamoidal areas much, may have larger sesamoid bones than one of 300 pounds, who has used this area little. The articular surfaces are lubricated by synovia, and are frequently the seat of subacute inflammation. As a class they have a very limited blood-supply. Sesamoid bones lose much of their specific character when subjected to the cleaning process. Logically sesamoid bones of the foot are larger in people who wear no shoes, free action of the foot increasing the activity of the sesamoid area and consequently aiding the development of the bone, since growth is the correlation of function.

The much-used feet and hands of a relatively small woman may have larger sesamoids than the little-used feet of a large man, and conversely. The idea of determining sex by sesamoid bones for medico-legal purposes is preposterous, illogical, and unscientific. The blood-supply of sesamoid bones like the blood-supply of tendons to which they morphologically belong, and of which they form an integral part, when present, is limited; hence, growth-changes are slow in these bones of necessity. For practical purposes, *viz.*, identification of sex, tight trousers, tight shoes, tight gloves, introduced in evidence as having a bearing on the modification of sesamoids should disqualify the medical jurist. (9) The temporal bone. In the criminal case of the State of Illinois *vs.* L. A. Luetgert, the alleged temporal bone of the State was in his opinion neither a temporal bone nor any part of a temporal bone, because: (1) It had parts and appearances inconsistent with a temporal bone. (2) It had not a single characteristic of this bone. When one recalls the numerous markings by which this bone is easily identifiable, as the internal ear, the ossicles, the styloid, the auditory meatuses, the glenoid, the canalia muscula, tuberarius and carotid canal and remember their absence in the alleged temporal bone, it would seem like lunancy to call this a temporal bone. Just as well might one swear to the identity of a coat, when every intrinsic vestige of the garment had disappeared except a buttonhole. The alleged facial canal in the petrosa, containing the alleged facial nerve had neither the direction, size, shape, peculiar caliber nor environment of a facial canal. The medical jurists of the State saw no sexual marking in this canal. On microscopic examination this canal contained vegetable fiber, not a facial nerve with petrosal branches. (10) The alleged human femur was in his opinion not a femur, because evidence was clear, judging from the specimen, that the bone to which this specimen belonged was far shorter than any known or recorded hnman femur; the thickness of the wall was far below the average; the medullary canal did not take the proper direction and was withal much too small; everything by which to identfiy a human femur was absent except the medullary canal; nothing by which to identify the bone as human was present.

OUR LONDON LETTER.

[From Our Special Correspondent.]

CRITICISM OF THE GENERAL MEDICAL COUNCIL—ORGANIZED EFFORT AGAINST THE CONSCIENCE CLAUSE OF THE VACCINATION ACT—THE NEW LONDON POLYCLINIC—ORIGIN OF THE PLAGUE IN TURKESTAN.

LONDON, February 16, 1899.

THE echoes of the Hunter "apothecary-physician" suit are still reverberating. The journals are full of indignant letters from members of the profession, and it is talked of everywhere that doctors congregate, the general and unanimous verdict being that the Penal Committee would have been much better employed in disciplining some of the quacks and unqualified practitioners who swarm under their very noses. Their dulness of vision and supineness in the Nugent impersonation case are mos unfavorably contrasted with their petty officiousness and zeal in prosecuting poor Mr. Hunter for a mere error of medical etiquette.

On the other hand the L. S. A. is loudly demanding, if he is not permitted to term himself physician, upon what ground can the possessor of an M. B. or M. R. C. S. degree be allowed to term himself "doctor," and their reasoning is logically sound. The episode seems likely to do much good in ventilating the rank absurdities of the chaotic condition of English medical qualifications.

An organized movement has already been set on foot in the profession looking to the repeal of the new and infamous Vaccination Act of last year. The spectacle of 270,000 children granted exemption from vaccination already is certainly enough to damn the Conscience Clause without further trial and to raise the gravest apprehensions as to the mischief already done, and its effects upon the next smallpox epidemic. The Worcester Branch of the British Medical Association at its last meeting adopted formal resolutions demanding the repeal of the present act, the substitution of the old law, and an additional provision rendering revaccination between the ages of fourteen and sixteen compulsory. Copies of these have been sent to every other branch in the United Kingdom for their action. It will be remembered that the chief condition upon which the Government obtained the consent of Lord Lister and other prominent medical men to their late "experiment" was the promise of speedy legislation for promoting or enforcing revaccination. That promise ought to be promptly fulfilled, but we fear it will serve as a block to any more-radical action until full time has been given to the Government to make it good. Several of the boards of guardians, corresponding to our county supervisors, have become alarmed at the results of the Conscience Clause and actually forwarded petitions to Parliament for the repeal of the late Vaccination Act. The Kingston Board went further and voted that in future no applicant for employment in the workhouse or upon its staff should be appointed unless he could give satisfactory proof of successful vaccination.

It is reported that the authorities of the University of Cambridge are desirous of inducing Professor Adami of Mc Gill University to abjure his adopted country and return to Cambridge to take the Chair of Pathology made vacant by the death of Professor Kanthack.

A book was published a few weeks ago by one E. A. Heath, M.D., "Doctor of Medicine of the Hahnemann Medical College of Philadelphia (by Residence and Examination)" as he describes himself on the title-page, whose nationality can be readily judged by its title: "Vaccination or Blood-Poisoning with Animal Diseases." Copies were sent to the papers as usual most of which paid no attention to it, but the one great London daily which had been an ardent supporter of the Conscience Clause honored it with a pointed and most destructive review of nearly a column, pointing out a few of its most egregious misstatements and fallacies. One is worthy of mention as a sample, "Vaccination with cow-pox or grease is one of the first and foremost causes

of the increase of the various forms of consumption," which, in view of the marked *decrease* of nearly forty per cent. in the consumption death-rate suggests that if this is the kind of an "increase" caused by vaccination we can hardly have too much of it. We had no idea vaccination was such a panacea until Dr. Heath revealed it to us. To crown the climax of the rebuke and add insult to injury a curt editorial note was appended at the bottom of the column to the effect that the review had been written by a competent physician and expert, and the columns of the paper were not open for a further discussion of the subject! This, of course, brought a deluge of letters from furious "antis," accusing the paper of deserting its principles, to all of which the editor briefly replied that his principles were as sound as ever, but that he didn't propose to interfere with the freedom of reviewers whom he regarded as competent. So there is gruegruesome burbling in the antivaccination camp.

When John Bull once gets waked up and started to move the momentum of his own inertia carries him far and fast. The movement for the prevention of consumption is spreading steadily every day. Upon the medical side the latest development is the action of the Society of Health Officers in urging that tuberculosis should be a notifiable disease. But the Englishman's well-known tenacity of and jealousy for personal liberty and rights will pretty certainly prevent any such step for some time to come at least. On the side of the public a most sensible arrangement has been entered into between the farmers and butchers of one of the large market-towns in reference to tuberculous cattle. It was agreed that at every sale of a beef-animal both buyer and seller should pay a small sum into the hands of a joint committee and thus form a sinking fund out of which compensation should be paid for all beasts found to be diseased upon slaughtering.

The first formal meeting of the subscribers to the new London Polyclinic and Medical Graduates' College was held recently and was most successful. Nearly 300 medical men were present and the cordial support of the profession seems now assured for the new enterprise. Sir Wm. Broadbent was elected President of the Board of Governors and an Executive Council of twenty selected which contains some of the most prominent men in London. At a meeting of the council early this week it was decided to defer the opening of the college till April or early in May in order to give more time for the fitting up of the laboratories. This delay was urgently opposed by a strong minority of those who have done most to bring the enterprise to its present advancement and will be a great disappointment to many visiting American and other medical men now in London. But the allurements of a formal opening with solemn ceremonies and everything in apple-pie order for inspection by the world appealed too strongly to the majority of the council. It seems almost a pity in view of the fact that the scheme has been in process of incubation for nearly a year that a beginning could not have been made at once with the abundant clinical material at hand and the laboratory courses started one by one as their equipment was completed. The strength of the polyclinic is going to lie chiefly in its clinics and clinical consultations and lectures, and it will take months after these are actually started to get the full current of patients required properly flowing in their direction.

A most interesting story of how the plague came to Turkestan last autumn has just been told in the *Times of India* by a Russian baron. The outbreak was confined to a little mountain village but raged there with great fury, attacking no less than 381 of the 500 inhabitants and *killing all but three* of those attacked. This is a significant reply to those who claim that the disease has lost its virulence since the Middle Ages. Where it finds plenty of dirt it is as fatal as ever. Suddenly there appeared upon the scene a good angel in the shape of Dr. Lieven, an expert returning from Bombay with a supply of Haffkine's prophylactic serum and ordered to the smitten village by the Russian Government. All the survivors, about 120 in number, were promptly inoculated, and to the delight of all concerned the plague was stayed, no new cases developed, and the last death occurred on the fourth day after Dr. Lieven's arrival.

This was the part of science; what was that of religion? Upon careful investigation the whole frightful epidemic was traced to some sacred relics purporting to be the coverings of the tombs of saints brought back from a pilgrimage into Northern India by a holy man of the village, named Pir Isa. These rags had been handed over to a widow in the village to be cut up and made into amulets for the faithful, and this poor woman was the first victim of the plague. Shortly after the woman who had nursed her died, and then in rapid succession seven of her relatives. But the dangers of holiness were not over yet. Pir Isa was, of course, consulted in the matter, and he gave judgment that the relatives had been smitten because the widow had not been buried in the proper position enjoined by sacred law, and the only thing to be done was to dig her up and plant her properly, which was accordingly done, with the cheerful result that every one who assisted in the operation was smitten and died. If they had planted the old fakir and his filthy rags "in the prescribed position" it would have been more to the point.

A melancholy instance of the descent from the sublime to the ridiculous has been afforded by the death of one of the Lancers who took part in the celebrated cavalry charge at the battle of Omdurman. He was wounded and on the return of the regiment to England was sent to the Army Hospital at Netley. Last Thursday afternoon he was discharged as cured and sent home on furlough, and on Friday morning was found dead in one of the compartments of a railway carriage with an empty whisky-bottle by his side. Two other soldiers were with him, also unconscious, but only dead drunk. The finding of the post-mortem was, "Cause of death, acute alcoholism with partial asphyxia." There seemed little question that death had occurred in a debauch after long-enforced abstinence, partly from the effect of large amounts of alcohol upon his weakened constitution and partly from getting

raw spirit into the air-passages while drinking it out of a bottle with a drunken-man's recklessness.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

THE THERAPEUTIC VALUE OF CATHETERIZATION OF THE URETERS—DISCUSSION OF THE PAPER BY ISRAEL, LANDAU, KUTNER, POSNER, RICHTER, MAINZER, WOSSIDLO, AND OTHERS—PHLEBITIS AND THROMBOSIS.

THE closing meetings of the year of the Berlin Medical Society were largely taken up with a discussion of the therapeutic value of catheterization of the ureters. CASPER read the first paper upon this subject, including in it a description of three cases which had been cured by means of ureteral catheterization. Two of the patients suffered from a unilateral pyelitis, which was cured by repeated irrigation of the pelvis of the kidney with 1 to 1000 nitrate-of-silver solution by means of a catheter in the ureter. The other patient had a ureteral stone, which caused absolute cessation of urinary secretion for thirty-four hours. A catheter was passed into the ureter, and 1.5 ounces of oil were injected into the ureter with considerable force. Within an hour the patient passed twelve ounces of urine, and within the next fifteen hours more than six quarts. The stone was also passed into the bladder, and crushed and washed out. Such a fortunate result was not to be anticipated in every case, but at least the passage of the catheter gave the operator the knowledge of the exact situation of the stone. In cases of pyonephrosis a cure is most likely to take place if the interior of the kidney is so disposed that every part of the affected surface is accessible to the silver solution. This is more apt to be the case if the diagnosis of pyelitis is made in the early stages, and this is best done by separating the urine from the two kidneys before examination. It is a well-recognized principle that one kidney should not be removed until the functional capacity of the other has been determined. From one-fourth to one-third of the patients upon whom nephrectomy has been performed have died with symptoms of anuria or uremia. Several fatal cases have been reported in which the extirpated kidney secreted all the urine, the other being absent or functionally dead. Much has been said of the danger of ureteral catheterization. This point has surely been exaggerated. Albarran, Pasteau, and the writer have together made over 1500 ureteral catheterizations without setting up infection in a single instance. Still the procedure is a delicate one, and should be carried out with the greatest precaution.

ISRAEL thought that the views held by Casper were far too sanguine. He cited cases in which infection had followed close upon a catheterization of the ureters, and others to show that the examination of small quantities of urine obtained by means of the ureteral catheter is no sure guide to the functional capacity of the kidney. Moreover, if dependence were placed upon such examinations the golden period for the extirpation of a badly diseased kidney would sometimes pass by. He had removed a tuberculous kidney from a patient whose other kidney was also affected, and had thereby given an eight-months' lease of life to an individual who, unless the source of pyemic infection had been thus promptly removed, had scarce a week to live. The records of autopsies were also quoted to show the unreliability of conclusions drawn as to the permeability of the ureter, and the character of the kidney disease, as well as the hopelessness of trying to effect a cure by irrigation in most cases of renal pyelitis. One-third of his cases of pyelitis, for example, were associated with renal calculus.

LANDAU spoke of the catheterization of the ureters in connection with gynecologic practice. After testing the methods of Simon, Pawling, Kelly, and Casper he was convinced of the superiority of sight over touch in the passage of a catheter into the ureter, as time was thereby saved and damage to the mucous membrane avoided. The catheter is of the greatest value to the gynecologist, as by it the site of the ureter can be marked out during an operation for removal of the uterus or adnexa, or it may be passed at the end of such an operation in order to prove that the ureters have not been included in the ligature, or its presence in a fistulous ureter may reestablish the continuity of the canal, or its occasional passage may relieve a stricture of the ureter.

KUTNER said that it is not surprising that infection sometimes follows the use of ureteral instruments, as it is impossible to sterilize them. They cannot be subjected to heat without injury, and chemicals work to a great disadvantage in such slender tubes; and even if perfect sterilization could be obtained, there still remain the chances of carrying upward gonorrheal or other infection from the bladder or urethra.

POSNER spoke of the difficulty in determining the condition of the "other" kidney. He objected to the use of the phrase "normal average excretion" of urea, citing the case of a woman, one of whose kidneys was removed thirteen years before. Examination of her urine showed the amount of area secreted, within a short period of time, to vary from 15 to 29 grams. The variation was due to changes in the diet. It is necessary to estimate the amount of albumen ingested and excreted in urine, and in the stools before one can say with propriety that a kidney is or is not doing a normal amount of work.

RICHTER said that the variation in the excretion of urea is especially marked in the case of a nephritic kidney, such as the "other" kidney is apt to be. He thought it impossible to determine by either chemical or microscopical examination of the urine whether a kidney has the required amount of functional capacity. This can, however, be told by the examination of the blood according to the method of Koranyi. The method is a simple one, consisting in determining the variation in the freezing-point of the blood, the variation from the normal showing the amount of retained products of metabolism. In order to learn how much of the work is done by each kidney, it is only necessary to collect and examine the urine from each kidney for twenty or thirty minutes, for tests have shown that normally the two kidneys excrete almost exactly the same amounts of urea, chlorids, etc., if the

urine be collected for not too short a time. By comparing the result for either kidney, within the twenty-four-hours' product of both, one can readily determine what part of the total functional activity is to be credited to either organ.

MAINZER called attention to the fact that the ureter is not easily infected, as shown by its freedom from disease when both the kidney and bladder are affected. The kidney, like the bladder, is easily infected. One ought, therefore, to be very careful not to pass a ureteral catheter into the pelvis of the kidney except for the purpose of irrigation. For diagnostic ends this should never be done, as nothing can be gained thereby, and the risk of infection is much increased.

WOSSIDLO thus summed up his views upon the catheterization of the ureter as a diagnostic measure: It surpasses all other means of diagnosis in certain difficult cases of stone in the ureter, and also in light cases of pyelitis, with only slight clouding of the urine. In all other renal troubles it gives no information which might not be obtained by other methods less severe. It is in such cases, therefore, unnecessary, and it may be dangerous. The proof that one kidney produces normal urine is no proof that it will do so after the other kidney has been removed, a statement which has been substantiated by several fatal cases of nephrectomy.

In conclusion, CASPER warned against the mistake of confounding *post hoc* and *propter hoc* in the matter of ureteral catheterization. He mentioned the case of a young man who had an elevation of temperature after catheterization, which was hastily set down to the passage of the instrument, although the information was later secured from his physician that he had had for some time slight symptoms of pyelitis. He had previously shown the same elevation of temperature after the passage of a catheter into the bladder. In respect to the uncertainty of the conclusions which one is able to draw from the examination of small quantities of urine drawn from the catheters, Casper said the variations in health are so slight that when in diseased conditions one finds one kidney doing more than the normal amount of work, while the other is doing only a third or a fifth of the normal, there should be no hesitation in saying that the results of examination showed something that could be depended upon as to the relative functional capacity of the two organs.

At the College of Doctors of Medicine of Vienna, January 13th, MANNABERG discussed phlebitis and thrombosis, regretting the fact that so little attention is given to these subjects in text-books and lectures at present, while formerly they formed an important chapter. How important they are is shown by the fact that six per cent. of all autopsies performed in the general hospital of Vienna revealed the presence of thrombi. Of these 96 cases, 39 occurred in the course of an infectious disease, 30 in diseases of the heart or blood-vessels, 19 in neoplasms, 6 in senile marasmus, and one each in chlorosis and nephritis. A failure to make a correct diagnosis may lead the physician to recommend massage for the pain or swelling, thereby perhaps costing the patient his life. Thrombosis occurs most often in typhoid, influenza, tuberculosis, dysentery, diphtheria malaria, and cholera among the infectious diseases, less often in acute rheumatism, gonorrheal arthritis, scarlatina, smallpox, or measles. Virchow's theory that thrombosis occurs in infectious diseases on account of the failure of the strength of the patient has been much disputed, but as yet no one has proved the presence of bacilli in the thrombi. Another point for his theory is the occurrence of the thrombosis in most instances at the end of the disease, when the heart's power is much reduced. Bacteria are not found in the thrombi which arise in connection with valvular diseases of the heart and in fatty heart. The edema which is so common in connection with carcinoma is usually attributed to marasmus. It is really often due to the presence of thrombi. The pathology of thrombosis of chlorosis and leucemia is not clear. In these diseases the danger of a mistaken diagnosis and treatment is particularly great. Thrombosis after operations was also mentioned.

SOCIETY PROCEEDINGS.

HARVARD MEDICAL SOCIETY OF NEW YORK.

Stated Meeting, Held January 7, 1899.

THE President, P. C. COLE, M.D., in the Chair.

DR. THEODORE DUNHAM read the paper of the evening, entitled

SOME PRACTICAL POINTS IN THE PHYSICS OF STEAM-STERILIZATION.

(See page 257.)

DISCUSSION.

DR. E. M. FOOTE expressed himself as much interested in the paper and wished to know what were the best sterilizers on the market.

In order that the merits of the two principal sterilizers, the Kny-Sprague and the Bramhall-Deane, might be presented, representatives of both were asked to speak.

MR. BRANDT described the Kny-Sprague "Perfection" Sterilizer. The principle upon which it is constructed is the combination of a high temperature dry-air chamber with a high-pressure steam disinfecting-chamber. In other words, all material to be sterilized in this apparatus is subjected to dry heat at 250° F. (120° C.), and then to a current of steam of one atmosphere (fifteen pounds). This is accomplished by means of the annular jacket which surrounds the sterilizing-chamber. Steam is generated in this jacket, the safety-valve is set at fifteen pounds pressure, and a uniform temperature of 250° F. is maintained in the chamber. The temperature may be raised or lowered by adjusting the safety-valves. The air in the sterilizing-chamber is partly expelled by the high temperature, but, to make the sterilization more thorough and reliable, a vacuum is formed in the chamber by means of an air-ejector, which is worked by the steam-pressure contained in the jacket, or by the high-pressure steam of the house-plant if the apparatus be connected with the latter. A vacuum of from 20″ to 25″ can thus

be formed before steam is turned into the material to be sterilized, and in this way all dead spaces which may have formed are eliminated. The steam entering the sterilizing-chamber is then eagerly absorbed by the fabric which it penetrates rapidly and thoroughly. The temperature within the chamber being as high as that of the inflowing steam, no condensation takes place and therefore there is no wetting of the material in spite of the fact that the latter is thoroughly saturated by steam. If, however, it is desired that the dressings be absolutely free from dampness, drying can be accomplished by continuing the sterilization for about ten minutes longer in a dry vacuum-chamber as previously described. An apparatus which will sterilize by means of both steam and dry heat possesses a distinct advantage for animal suture material such as catgut and kangaroo tendon, which would be ruined by steam, may safely be placed in the dry chamber and subjected to a temperature sufficiently high to ensure complete sterilization.

MR. MAY described the Bramhall-Deane Sterilizer as consisting of a globe of copper or brass with a substantial circular door of cast bronze ground true against a flange of the same metal. The door is without a fastening or catch of any kind. It is absolutely steam- and air-tight from the pressure within and acts as a vacuum-valve to prevent possible collapse. It is a triumph of genius—economical and simple. The steam is supplied from a small generator or boiler placed a little below the globe, and entering from above drives the air out through the air-cock in the bottom of the globe, or through the open safety-valve at the top. This generator is furnished with a steam-coil, or burner for gas or petroleum heating, and has the advantage that should the fire be continued after the water has evaporated, the sterilizer itself will not be injured, merely the boiler, which may be repaired at a trifling cost. There is no cast iron in the whole apparatus. It is handsome, durable, and especially quick in operation where gas or petroleum is used for generating the pressure. It is furnished with a combination steam-gage and thermometer and safety-valve regulated to blow off at the proper temperature. It sterilizes perfectly and absolutely.

DR. COLE said he had examined both sterilizers and preferred the Kny-Sprague because it is possible to employ either steam or dry heat at will, because it has an air-ejector which creates a vacuum in the sterilizing-chamber before the steam is introduced, and because the sterilizing process occupies a much shorter time and there is a consequent large saving in heat.

DR. WHITMAN asked if it is absolutely necessary to have a vacuum in order to obtain complete sterilization.

MR. SPRAGUE replied that experiments have been made in which it was shown that steam will penetrate to the center of a mass of towels or gauze dressings much more rapidly and completely in a sterilizer from which the air has previously been expelled by the vacuum process. In one of these experiments a cake of ice had been wrapped in a blanket and placed in a sterilizer. After subjecting it to a temperature of 240° F. it was found that the ice was still unmelted. The same experiment was made with the vacuum process with the result that the steam penetrated the blanket and melted the ice. In another instance several eggs were wrapped inside of a lot of dressings and placed in the sterilizer. After subjecting them to a high temperature without the vacuum it was found that the eggs were still uncooked. The eggs were most thoroughly baked after being introduced into a sterilizer with the vacuum attachment.

DR. WALKER called attention to the fact that experimenters both in Germany and France have come to the same conclusions that Dr. Dunha n has reached, *viz.*, that it is necessary that the steam inlet be placed at the top of the apparatus and that sterilizers which are not constructed upon this principle must be inferior to those which are. He believed that Dr. Dunham was the first in this country to call attention to this important fact, and referred to the fact that among steamfitters it is well known that in setting up radiators the steam is always admitted at the top and the cold-air outlet placed at the bottom.

DR. BREWER stated that the most extensive and elaborate experiments have been made by Dr. Rowe at the Boston City Hospital in regard to sterilizers and as a result the Kny-Sprague has been adopted as the most satisfactory.

REVIEWS.

A TEXT-BOOK OF OBSTETRICS. By BARTON COOKE HIRST, M.D., Professor of Obstetrics in the University of Pennsylvania. Philadelphia: W. B. Saunders. 1898.

THE reader of this scholarly work on midwifery will be inclined to ask Dr. Hirst to revise his preface in the next edition; he need make no apology for having written the book. It is a fresh, live contribution to the subject, written in a broad and catholic spirit, as with a learned pen, and gains by contrast to the various systems so much in vogue at the present day. Dr. Hirst has the experience, the facility of pen, and the knack of teaching; he knows how to separate the chaff from the wheat; the consequence is an admirable text-book of obstetrics, modern, scientific, convincing.

The subdivision of the work is much like that in most of the familiar text-books; but this cannot be avoided, nor is it uttered in criticism, for no man can create subjects. The views of the author are, after all, the interesting points. He prefers the Porro operation, for instance, to a Cæsarian section, where the latter operation is usually considered necessary. He induces abortion with metal dilators, premature labor with bougies. The immediate repair of the perineum is advocated, but not that of the torn cervix for the reasons of usual ignorance and aseptic unpreparedness. The chapter on puerperal sepsis is superb, and could accomplish immense good if it were universally studied, not merely read. It contains, by the way, for the first time in an obstetric work that we remember, a quotation from Holmes' immortal essay on "The Contagiousness of Puerperal Fever." It would be supererogation to speak of the scientific attitude of the

author in this chapter, for it is marked by the same breadth of conception and touch of scholarly genius which characterize the other parts of the book.

It is safe to say that if physicians took to heart the lessons imparted in this work the accusation could no longer be made that they, like the supposedly murderous midwife, are responsible for many puerperal deaths. For student and physician alike, this is one of the most satisfactorily written and clearly illustrated works on obstetrics, stamped with the authority of a man broadly grounded and trained, which has as yet been published. It will see many editions, for it deserves that distinction.

Traumatic Separation of the Epiphyses. By John Poland, F.R.C.S. With 337 illustrations and skiagrams. London: Smith, Elder & Co. New York: G. P. Putnam's Sons, 1898.

The author states that little note is made of epiphyseal separations in the standard books on surgery, consequently these accidents are continually mistaken for fractures and dislocations. He hopes that this work may call attention to the subject and induce surgeons to publish reports of cases of epiphyseal separations that may fall under their notice in the future.

Epiphyseal separations following the classification of Foucher and Bruns are divided into three groups: (1) Through the conjugal cartilage uniting the epiphysis with the diaphysis. (2) At the epiphyseal line, the conjugal cartilage adhering to the displaced epiphysis. (3) Juxta-epiphyseal separation, or fracture through the osteoid tissue or newly formed bone of the diaphysis. The first and second varieties are rare, and occur most often in young children; the third is the more common form. The author is in accord with previous writers and experimenters that epiphyseal separations are rare as compared with fractures, and that the liability to the accident is greater when ossification is well advanced in both the epiphysis and diaphysis, leaving a weak point at the cartilage itself: thus it is more common in the second decade of life and after puberty.

The cause of the separation is usually a twist or strain, particularly over-extension at a joint, by which the protecting periosteum is ruptured; and those epiphyses are most liable to the accident which are of large area, and to which unyielding ligaments are attached at or about the junction with the diaphysis. Thus, of the cases in which the nature of the injury was established by anatomic specimens or by autopsy, or when the separation was compound, or when operation was performed, as in 321 of the 693 cases recorded, the statistics are as follows: The lower epiphysis of the femur, 84, or about 26 per cent.; the lower epiphysis of the radius, 50, or about 15 per cent.; the upper epiphysis of the humerus, 49, or about 15 per cent.; the lower epiphysis of the tibia, 22, or about 7 per cent. The reports of unverified or "simple" cases number 372, and it may be doubted if they repay the author for the years of labor spent in collecting and transcribing them. For example, but four verified cases of separation of the head of the femur are recorded, and one of these (Kocher) was really a fracture, yet the total number reported is thirty-one. Many of the cases are ancient, and serve rather to illustrate the character of the evidence on which the diagnosis was made than to convince one that it was correct.

The especial interest in epiphyseal separations lies in the treatment, and in the possible effect of the injury on the subsequent growth of the limb. The difficulties in treatment are caused by the proximity to the joint, and by the fact that reposition of the fragments may be prevented by the torn and displaced periosteum. In such cases the open operation may be required. In rare instances, growth may be checked by the direct injury to the epiphyseal cartilage or by subsequent infection and disease, or by exuberant callus formation, but in nearly all cases asymmetry and deformity are due to displacement of the epiphysis. If accurate apposition of the fragments is attained the subsequent result will be precisely like that of a fracture.

The main purpose of the writer was, apparently, to produce a book of reference on epiphyseal separations, but it may be that the account of the anatomy and physiology of growing bones admirably illustrated by specimens and Röntgen pictures, the suggestions as to the possible effect of sprains and injuries at the epiphyseal region, and their influence in inducing secondary disease will be of even greater value to those who are interested in the surgical diseases of childhood.

The book is well written, well printed, and well illustrated, and the author and the publishers are to be congratulated on a work that is a distinct addition to surgical literature.

Manual of Chemistry: A Guide to Lectures and Laboratory Work for Beginners in Chemistry. By W. Simon, Ph.D., M.D., Professor of Chemistry and Toxicology in the College of Physicians and Surgeons, Baltimore; Professor of Chemistry in the Maryland College of Pharmacy. New (sixth) Edition. Illustrated. Philadelphia and New York: Lea Brothers & Co., 1898.

This work, now in its sixth edition, has become a classic in its particular line. Its numerous editions point to its excellence, which a careful examination verifies. Among the more recent discoveries we note with pleasure a sketch on argon and helium, the elements isolated from the air by Lord Rayleigh and Professor Ramsay.

Dr. Simon's vast experience as a teacher was no doubt made use of in the edition before us in following the classification he adopted in his former editions. The division of this vast science into seven heads is both logical and comprehensive, while the grouping of all strictly theoretical principles in a separate chapter, instead of being scattered throughout the work, is a most laudable feature. The section treatment of analytical chemistry, though brief, gives the student considerable acquaintance with this branch of chemistry, and both organic and physiological chemistry are presented in a manner most intelligible to the student or practitioner in search of a clear understanding of these subjects in a general way. The plates of color-tests enhance the value of the work,

which in its whole make-up as well, presents an inviting appearance, making it deserving of its reputation as a standard work on this subject.

A SYLLABUS OF MATERIA MEDICA. Compiled by WARREN COLEMAN, M.D., Instructor in Clinical Medicine and Materia Medica in Cornell University, Medical Department. New York: Wm. Wood & Co., 1899.

THIS is the handiest of the small materia-medica compends which has come to our notice. In addition to a complete list of the drugs, with their preparations, doses, actions, and uses, arranged alphabetically, the book contains a list of the more important preparations, and several regroupings of drugs according to physiological and special actions or effects. The book is complete in its way, yet condensed into a well-printed volume of almost vest-pocket size.

A PRIMER OF PSYCHOLOGY AND MENTAL DISEASE FOR USE IN TRAINING-SCHOOLS FOR ATTENDANTS AND NURSES AND IN MEDICAL CLASSES. By C. B. BURR, M.D., Medical Director of Oak Grove Hospital for Nervous and Mental Diseases, Flint, Mich.; formerly Medical Superintendent of the Eastern Michigan Asylum. Second edition. Philadelphia: The F. A. Davis Co., 1898.

THIS syllabus, arranged for the instruction of nurses in the outlines of mental diseases, with especial reference to the care of the insane, has found a sphere of usefulness as a hand-book for students. The text is brief, concise, and very elementary.

A LABORATORY GUIDE IN URINALYSIS AND TOXICOLOGY. By R. A. WITTHAUS, A.M., M.D., Professor of Chemistry, Physics, and Toxicology in the Medical Department of Cornell University; Professor of Chemistry and Toxicology in the Medical Department of the University of Vermont, etc. Fourth edition. New York: William Wood & Company, 1898.

THIS book is designed for the use of students working in college laboratories, but it can be used with profit by anybody engaged in chemical analysis. It is published in a very handy style and is printed on one side of the page only, so that a reference to any subject can easily be made. An elementary knowledge of chemistry is essential to those working with the book as the chemical formula is used in each instance instead of the full chemical name of the reagent. This, however, is of great advantage, as much space is gained, and the subject is condensed with profit. There are no unnecessary details given, simply a bare statement of facts throughout, consequently the beginner will require the assistance of his teacher until he understands the general manner in which the tests are made. After this the book alone will direct him sufficiently to enable him to carry out all the simpler procedures with accuracy.

The book fulfils the purpose for which it was intended and can be recommended as a safe guide to those engaged in this line of work.

THERAPEUTIC HINTS.

For Uremic Headache.—

℞	Potassii citratis	ʒ ii
	Spts. juniperi	ʒ vi
	Spts. etheris nitrosi	ʒ ii
	Inf. scoparis	℥ vi.

M. Sig. A wineglassful three times a day.

For Dyspepsia with Flatulence.—

℞	Tinct. gentianæ Tinct. valerianæ Tinct. nucis vomicæ	aa	ʒ i
	Chloroformi		gtt. xx–xl.

M. Sig. Ten to twenty drops in water before meals.

Care of Breasts before Confinement. — During the last month or six weeks of pregnancy the breast, especially at and near the nipple, should be prepared for functional activity in the following manner: At night inunctions with lanolin should be practised, and in the morning the parts should be washed for several minutes with soap and tepid water, a soft cloth being employed, and gentle friction. Then the entire breast should be washed with cold water and carefully dried.—*Mabbott.*

Orthoform with Calomel.—DANLOS has found it possible to make practically painless injections of calomel by means of the simultaneous use of orthoform. He employed the mixture in a case of syphilitic glossitis, and not only was analgesia obtained at the time of the injections, but on the fourth day when there is usually a painful reaction, only slight local discomfort was evidenced.

For Leucorrhea.—The following treatment is said to cause considerable improvement in the local symptoms, and in the general condition:

℞	Quininæ hydrobrom.	ʒ ss
	Ol. theobrom.	ʒ v.

M. Ft. suppos. No. X. Sig. One suppository is to be inserted into the vagina daily.—*Wright-Hardwicke.*

For Cholera Morbus.—During the early stage of active vomiting and diarrhea the following mixture will be found helpful:

℞	Ac. carbolici	gr. viii
	Glycerini	ʒ v
	Tinct. opii camph.	℥ ii
	Aq. cinnamomi	ʒ iii.

M. Sig. For an adult one teasponful after each paroxysm until they cease.

Ointment for Rheumatic Phlebitis.—

℞	Ac. salicylici	ʒ iv
	Morphinæ hydrochlorat.	gr. v
	Lanolini	℥ i.

M. Ft. unguentum. Sig. External use.—*Hirts.*

For Chilblains.—

℞	Chloroformi	ʒ ii
	Lin. belladonæ	℥ ss
	Tinct. benzoini comp.	ʒ ii
	Lin. saponis	℥ iii.

M. Sig. To be applied on lint for ten minutes, not to be rubbed in.

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ORIGINAL ARTICLES.

PARACENTESIS PERICARDII; REPORT OF A CASE.[1]

BY JAMES HAWLEY BURTENSHAW, M.D.,
OF NEW YORK.

UP to the end of the year 1896 exactly 100 cases of paracentesis pericardii had been reported[2]. Since that date, so far as my investigation of the literature bearing upon the subject determines, but seven additional cases have been placed on record, although it is probable that the operation has been performed more frequently than these statistics would indicate.

The history of the operation is exceedingly interesting. It is said that Riolanus suggested the advisability of tapping the pericardial sac in the presence of effusion as long ago as 1649, and that exactly 100 years later Senac also advocated the procedure, but no document exists to prove that either had the courage of his convictions. In 1806 Corvisart expressed the opinion that the operation was absolutely unjustifiable on account of its danger, but in 1819 Romero of Barcelona, in spite of this opinion, performed it three times, twice successfully. These are the first cases of which we have record. In 1839 Schuh, in Germany, tapped the pericardial sac twice in the case of a patient in whom the condition was later discovered to be a mediastinal tumor. In 1854 Trousseau, in France, reported several successful cases of his own and of Aran, and in 1866 the operation was introduced into England by Clifford Allbutt. A portion of a rib was resected and the pericardial sac opened and drained for the first time by Rosenstein of Leiden in 1881.

Probably the most complete paper on the subject of paracentesis pericardii is that by Samuel West, read before the Royal Medical and Chirurgical Society of London in 1883 and published in the *Transactions* of that year. In this paper the author states that up to the year 1866 79 cases had been recorded, the greater number in France, Germany, and the United States. In 71 of the cases in which sex was specified 57 were in males and 14 in females. A majority occurred before the thirtieth year of age, but 2 between the fiftieth and sixtieth years, and 3 between the sixtieth and seventieth. In only 1 instance in these 79 cases, and, indeed, in the 100 cases reported up to the year 1897, was the operation immediately fatal, the trocar penetrating the right ventricle and giving rise to hemorrhage into the pericardium which caused death in a few minutes. Of the remainder of the 79 patients 1 was moribund at the time the operation was performed and died two hours later, 6 died within twenty-four hours, 12 lived one week, 8 about one month, 6 for a period longer than one month but less than ninety days, 3 for a little more than six months, and 12 very much longer, while in the remainder, 30, or 38.4 per cent., recovery apparently was complete. In 16 of these cases the pericardium was tapped twice, in 3 three times, in 1 six times, in 1 eight times, in 1 many times during a period covering four and one-half years, and in 2 after the sac had been tapped twice a portion of a rib was resected and the pericardium laid freely open and drained. In 30 cases the fifth left intercostal space was selected for the insertion of the trocar, in 20 the fourth interspace, in 3 the sixth, in 3 the third, in 1 the seventh, and in 1 the eighth, the last being a dry tap. In a majority of the cases a point was chosen as near as possible to the left edge of the sternum, but in 3 the puncture was made to the right of the sternum, once in the third interspace, and twice in the fifth.

As compared with the immediately fatal case from penetration of the right ventricle, a case reported by Sloan in the *Edinburgh Medical Journal* for February, 1895, is of interest. Paracentesis was performed on a nineteen-year-old girl for pericardial effusion following an attack of rheumatism. The trocar penetrated the right ventricle and nearly ten ounces of blood was removed before the error was discovered by the surgeon. The patient made a good recovery. In this instance the trocar was introduced through the fourth interspace half an inch to the left of the sternum.

Primary pericarditis is considered a very rare condition and when met with children are usually the subjects. According to most authorities as a secondary affection it occurs most frequently in connection with rheumatism; in pulmonary tuberculosis, especially as an extension of tuberculous pleurisy; and during the course of chronic Bright's disease. The statistics of the 79 cases collected by West show that 13 of the patients had phthisis as a complica-

[1] Read before the West End Medical Society of New York, February 4, 1899.
[2] Meldon, *Med. Press and Circ.*, London, December 16, 1896.

tion, 11 rheumatism, 9 scurvy, 6 pleurisy (whether tuberculous is not stated), 2 pneumonia, 1 a mediastinal tumor, and 6 general dropsy resulting from (*a*) "heart disease" (character not stated), 2; (*b*) nephritis, 2; (*c*) chronic bronchitis, 1. In 17 of the cases no complication or etiologic factor was assigned to the condition, in 3 the inflammation was due to trauma, and in 12 the effusion was purulent. From these figures it would appear, therefore, that other factors beside rheumatism and tuberculosis play a very important rôle in the production of pericarditis although it is probable that at the present day scurvy, on account of its comparative rarity, as an etiologic entity may be almost entirely eliminated.

The case which I am about to report is in many particulars, I think, unique; I have been unable to find a record of one in any way resembling it.

Mrs. R., sixty years of age, never pregnant, first came under my care in March, 1898, for periodic attacks of bronchial asthma. She was a well-preserved, fairly well-nourished woman, of equable temperament, weighing in the neighborhood of 130 pounds. At about the age of forty a fibroid growth of the uterus had developed and during the succeeding six years had so increased in size that her abdomen appeared like that of a woman at term. Flooding was frequent during these years, but she refused operation. At about this period change of life occurred, the bloody flow gradually ceased, and shortly thereafter the growth began to decrease in size. At the date of my first examination it was about as large as a child's head, was of stony hardness, irregular in outline, and firmly adherent. Its presence had not inconvenienced her in the slightest degree during the previous ten years, with the possible exception, perhaps, that urination had been somewhat more frequent than under normal conditions. Her bowels were inclined to be loose but this tendency had existed since childhood.

There was no history of tuberculosis in her family. Her lungs and kidneys were perfectly sound. She had a mitral regurgitant murmur of slight degree which, I was told, had first been detected some ten years before I first saw her. She had never been subject to rheumatism or to gout and had not had the ordinary diseases of childhood. The first of the asthmatic attacks had occurred in November, 1897, without warning, and though somewhat infrequent during the subsequent five months they then became of weekly occurrence. As a rule the seizures were during the early morning hours, the patient suddenly awakening from sleep with a feeling of constriction in the chest. Dyspnea immediately became intense, both inspiration and expiration being accompanied by a loud whistling sound, while the chest heaved, the face became cyanotic, and the surface of the body was covered with a cold sweat. Both lungs during one of these paroxysms were filled with coarse bubbling and whistling râles. Upon the subsidence of an attack expectoration was profuse and thick, although unaccompanied by severe cough, and the patient was left in a condition of complete exhaustion.

These attacks usually lasted from ten minutes to an hour, and within twenty minutes, as a rule, from the time of their ending the lungs were again perfectly clear and not a râle was to be heard. I was always able to cut a paroxysm short by causing the patient to inhale a few drops of amyl nitrite, followed at an interval of a couple of minutes by chloroform to the point of fleeting anesthesia. The hypodermatic use of morphin even in small doses at this time invariably caused nausea and had no appreciable effect in shortening the paroxysm. From March 17 to November 19, 1898, a general tonic treatment was followed, which, until October 23d included the administration of 10 drops, three times a day, of a saturated solution of potassium iodid during periods of two weeks at a time, and the diet was carefully regulated. So-called cigarettes of niter paper were frequently burned in the room near the patient but were of doubtful value. On October 23d the administration of potassium iodid was discontinued as it apparently was not doing good, and the patient's stomach with difficulty retained it even in small amount.

At no time during the course of the year, either at the height of a paroxysm or during the intervening periods, did the patient suggest the presence of pain in the region of the heart and at no time was the area of cardiac dulness increased or any symptom present which indicated involvement of the organ. Though somewhat weak the heart action was regular and there was no accentuation of the pulmonary sound.

On November 19, 1898, an exceptionally severe asthmatic attack occurred, which yielded but slowly to the usual remedies. From that date until November 27th the patient felt particularly well and was in excellent spirits, on several occasions venturing out of the house and walking a mile or more. During the morning of the 27th a dyspneic paroxysm developed which lasted three hours and was the most violent I have ever seen. Both lungs were filled with all varieties of râles and the heart-action was tumultuous and irregular. Two attacks occurred on the 28th, though less severe in character. During the afternoon of that day I again carefully examined her chest but with exactly similar results as on former occasions between attacks. With the exception of the slight degree of valvular involvement the heart appeared to be in a perfectly normal condition. The apex-beat, though weak, was to be felt in the fifth intercostal space about one inch within the mammary line. There was no pain on pressure over the precordial region and the normal area of cardiac dulness was not increased. A few moist râles were present in both lungs posteriorly.

Attacks of dyspnea occurred at intervals during the following night. Uncontrollable nausea and vomiting developed during the morning of November 29th, and the former continued almost without

intermission during the patient's waking hours for five days and nights in spite of every effort to control it. Dyspneic paroxysms lasting, as a rule, about twenty minutes, occurred at hourly intervals until the afternoon of the 30th, when the patient had three hours of refreshing sleep. When I visited her at four o'clock my attention was at once arrested by a marked change in the character of the radial pulse. Small doses of strychnin had been administered hypodermatically at intervals since the preceding morning, and although the pulse had become steadier and its volume had increased under the influence of that drug, it was now marked by a distinct intermission at regular intervals. This intermission, I presently noted, was synchronous with the act of inspiration. In order to verify this fact I twice directed the patient to inspire as slowly and as deeply as possible, and in each instance the length of time of the pulse intermission was nearly as long as that consumed in inspiration. The effort to breathe deeply brought on another severe attack of dyspnea which lasted nearly four hours with only occasionally a few minutes' cessation. This attack differed materially in character from those of the previous day as well as from those of the morning of the same day. Then the lungs were full of râles and expiration was loud and wheezy; at this time the lungs were almost entirely clear of râles and the breathing was devoid of the characteristic asthmatic wheeze. The pressure of a stethoscope over the cardiac region caused the patient intense pain, but this pain entirely disappeared upon removal of the instrument. She had not been conscious in any way of the presence of this painful area until this examination was made. Curiously enough only once during the subsequent course of her illness did she complain of pain in the region of the heart except when pressure was made in this locality.

An immediate examination of the heart demonstrated that fluid had already collected in the pericardial sac. There was an entire absence of pericardial friction-sounds, such as ordinarily would be noted in connection with inflamed pericardia before the advent of effusion. The cardiac impulse was absent from the fifth interspace. The action of the heart was irregular and labored and the first and second sounds were muffled and indistinct. The mitral regurgitant murmur could not be distinguished over the precordia. The area of cardiac dulness was considerably increased, its lower margin being distinctly crescentic. Even slight percussion in this region caused the patient severe pain; the exact area of dulness could not be satisfactorily determined.

Cloths wrung out in ice-water were applied over the precordia, but as this procedure merely aggravated the patient's discomfort, and as the dyspnea was growing more marked I determined that withdrawal of the accumulation in the sac was imperative. Dr. Walter Mendelson, who kindly responded to my call for assistance, agreed with me as to the condition present and as to the necessity for immediate operation, and at 8 P.M. the procedure was carried out.

The precordial region was washed as thoroughly as existing conditions would permit with a 1-to-500 solution of mercuric bichlorid followed by alcohol. Then, after Dr. Mendelson had administered a few whiffs of chloroform, the patient being supported in a sitting position by pillows, I introduced a medium-sized aseptic needle attached to an old-style antitoxin-syringe into the pericardial sac at a point about one inch from the sternum in the fourth intercostal space. The partial withdrawal of the piston was followed after a moment by the appearance in the tube of about half an ounce of blood-stained serum. The needle then became clogged and was withdrawn. The removal of such a small amount of fluid did not relieve the dyspnea and I therefore introduced a much larger needle, this time through the fifth interspace, the same distance from the sternum, and another ounce of fluid was removed. The second needle was inserted a distance of about two and one-half inches and during the manipulation at one time it scraped the heart, resulting in a slight spasm of that organ and decided pain to the patient, who was not anesthetized.

Marked relief as a result of the operation did not ensue until the expiration of an hour, when, under the influence of strychnin and whisky, hypodermatically, the heart action became more regular and strong, the breathing became normal, and, an opium suppository having been administered, the patient slept quietly during an hour. An analysis of the urine the same evening showed it to be of a specific gravity of 1018, dark in color, of an acid reaction, containing one and one-half per cent. of urea, earthy phosphates in small amount, and bile pigment. It did not contain albumin or casts.

The following morning (December 1st) the patient's breathing was normal, but her heart was very weak and irregular, the radial pulse being almost imperceptible. The heart responded quickly to the hypodermatic use of strychnin, followed after an interval by whisky, and these remedies were continued at two-hour intervals during the day. On account of the continued nausea attempts were made to administer high enemata of warm peptonized milk and whisky, but the patient was totally unable to retain them. Every known therapeutic measure was adopted in turn to check the nausea, but without favorable result. Considerable pain in the region of the heart was complained of (the only time during the course of her illness), and late in the afternoon an alarming sinking spell occurred. From this she soon rallied, under hypodermatic stimulation, but remained very weak. But four ounces of urine was voided from the early morning of this day until the evening of the following one, although five loose bowel movements occurred during the interval.

On December 3d the heart action was very rapid, irregular, and feeble. Five minims of tincture of digitalis and fifteen minims of whisky were administered hypodermatically every two hours, and one-sixtieth of a grain of strychnin every four hours throughout the day. Two high enemata of liquid peptonoids and milk were retained. On December

4th there was marked improvement. One minim of dilute hydrocyanic acid in a tablespoonful of hot water every two hours finally checked the nausea, and the patient was able to retain teaspoonful doses of liquid peptonoids and small quantities of orange juice, the first nourishment taken by the mouth in five days. The heart action was stronger and more regular. Twelve ounces of urine was passed. Under the influence of an opium suppository four hours of sleep was obtained. Another sinking spell occurred at four o'clock on the morning of December 4th, and another at 6 A.M. on December 6th. Nausea was again very pronounced on the last-named date and the collapse was so complete that dissolution appeared to be imminent several times during the day. She finally revived under the use of suppositories containing digitalis and stychnin and the heart action became stronger.

On December 7th almost complete aphonia developed and persisted two days. A urinary analysis on this day differed but little from those made previously. From this date until December 12th the patient held her own fairly well, although she did not gain in strength. She readily assimilated certain of the prepared foods and developed quite a healthy appetite. On December 12th cystitis of a peculiarly marked type suddenly made its appearance and persisted nearly three weeks, or until January 1st, in spite of every effort to control it. She had always voided urine naturally and a catheter had never been used. Urinalysis resulted as follows: Color, dark reddish; specific gravity, 1021; reaction, acid; solids, 48.93 grams to the liter; quantity in twenty-four hours, 28 ounces; urea, 1 per cent.; albumin, a slight trace; sugar, absent; indican, no reaction; bile pigment, present; casts, moderately numerous, hyalin only; epithelium, from bladder, and, possibly some from the kidney; pus, abundant; blood, an occasional corpuscle; bacteria, abundant. The diet was restricted to milk, and urotropin, first in 7½-grain-doses every three hours and later in 15-grain doses every four hours was administered, and the bladder was washed out at regular intervals. Warm water, followed by solutions of boric acid, permanganate of potash, and nitrate of silver were tried in turn, with but little effect in favorably influencing the inflammation. The urotropin, especially in the larger doses, undoubtedly cleared the urine markedly, but for fear of a recurrence of the nausea its use was finally discontinued. The sensitiveness of the bladder was so acute that it was necessary to introduce a two-per-cent. solution of cocain into the viscus previous to each irrigation. Except over the region of the bladder there was no abdominal tenderness present, and I doubt if the pelvic growth, to which I have referred, exerted any influence in the production of the cystitis. About one ounce of urine was voided every hour during this period, and it was possible to relieve the patient from pain only by the free use of suppositories containing opium and hyoscyamus.

On December 24th bronchitis developed, but after a few days it yielded to carbonate of creasote in 5-minim doses every four hours. On December 30th the pain in the bladder was so intense that the patient had to be kept under the influence of morphin almost continuously. The following day (January 1, 1899) I cocainized the bladder and irrigated it with a solution of mercurol, a new preparation forwarded to me through the courtesy of Parke, Davis & Company of Detroit. This preparation, I am told, is a true chemical compound of nucleinic acid with mercury, containing ten per cent. of the latter drug. Its properties in the treatment of inflammatory conditions accompanied by pus formation were first brought to my attention by Dr. Robert Winthrop Gillman of Detroit, and although I was somewhat sceptical as to its ability to bring about the favorable results claimed by him, it greatly exceeded my expectations As a result of the irrigation the patient experienced relief almost immediately. The irrigations with mercurol were repeated at intervals on January 2d and 3d, and by the evening of the 4th no semblance of pain was referable to the bladder, the urine was of a specific gravity of 1018, there was no pus present, and but a slight trace of albumin.

On January 5th a serious sinking spell occurred at six o'clock in the morning, and the patient did not react except under the influence of amyl nitrite, digitalis, and whisky. The breathing was short and labored, the face became cyanotic, the pulse was thready and irregular, and there was pronounced pain on pressure over the heart. Careful percussion failed to reveal an increased area of cardiac dulness, the first and second sounds were clear, not muffled, and the apex beat was practically normal. As the patient was voiding but twelve to sixteen ounces of urine during each twenty-four hours at this time infusion of digitalis was substituted for the tincture, with beneficial results, the quantity of urine increasing to about three pints daily. An analysis showed it to be free from albumin and casts.

Uncontrollable nausea set in on January 6th and continued until the evening of the following day. Two sinking spells occurred on January 9th but were successfully combated by the application of hot compresses over the cardiac region. In the evening of this day a marked friction-sound, synchronous with inspiration and expiration, was heard over the precordia just within the nipple line. Flatulency was complained of on January 12th. The bowels were greatly distended, but the condition was relieved by enemata of hot water containing a few drops of oil of peppermint. An attack of nausea occurred during the morning of January 14th, but was soon controlled, and the patient was in better spirits, and apparently was in better condition physically than at any time since the beginning of her illness. On January 16th an attack of nausea occurred at about noon, but was controlled. At 3 P.M. the patient complained of intense pain in the abdomen, especially at a point in the median line just below the umbilicus. Her breathing at this time was quiet, but her heart action since early morning had been weak and irregular in spite of considerable stimulation. She did not complain of pain in the region

of the heart. At 5.30, while in the act of speaking to her nurses, her head suddenly fell back on the pillow and she died instantly. Autopsy, much to my regret, was refused.

The features of interest in this case to which I would particularly call attention are: first, the age of the patient; second, the suddenness of the onset of the pericardial inflammation; third, the absence of an etiologic factor, such as trauma, tuberculosis, or rheumatism, in its production; fourth, the absence of pain in the region of the heart, except on one occasion and when pressure was made in this locality, during the entire course of the illness; and fifth, the fact that there was no recurrence of the typical asthmatic attacks after the development of the pericarditis.

From a superficial consideration of the case it would be natural to arrive at the conclusion that from the beginning the dyspneic paroxysms were in reality a manifestation of a pathologic condition of the heart or pericardium, or more properly, were due to a latent pericarditis which finally became acute. Allowing the supposition that in a majority of cases of pericarditis the inflammation is accompanied by effusion, in support of the theory it may be said that in the greater number of the cases tabulated by West the pericarditis had been of long duration, in some instances several months, before the necessity for paracentesis became manifest. In the case of one subject the effusion had been present more than four years. In but twenty-five cases was the duration short, and the attack, therefore, more or less acute. On the other hand, while certain authorities have said that it is probable that no one of the serious diseases is so frequently overlooked as pericarditis, and that the evidences found on post-mortem examination are the first intimation to the physician that the disease existed in his patient, it is to be remembered that in this instance careful examinations of the chest were made at frequent intervals and that symptoms of such a condition were wholly absent. At no time previous to the onset of the acute attack did the patient experience pain in the region of the heart; pericardial friction sounds were not present; and, as regards the possibility of the effusion having been of long standing, there was no prominence of the intercostal spaces of the left chest; the apex-beat was in its normal position; the heart-sounds were clear and distinct; the action of the organ was in no way hampered; and finally, the normal area of cardiac dulness was not increased. Coupled with these facts is the one that the dyspneic paroxysms previous to the discovery of the pericardial involvement were so distinctly typical of bronchial asthma, and were so markedly different in character from those which occurred later, that, to my mind, the heart cannot be regarded as having been a factor in their production. Again, it has been claimed that the occurrence of attacks of bronchial asthma are due to a neurosis of the vagus, and facts have been cited to substantiate the theory that the spasms in many instances are of reflex origin. One German clinician of wide experience, however, asserts that it is extremely doubtful if asthma of a purely bronchial type can originate from this cause.

The suddenness of onset of the attack and of the appearance of the effusion I am at a loss to account for, especially in the absence of a satisfactory hypothesis as to the origin of the inflammation. The dyspneic attacks of the morning of the day upon which the pericarditis was discovered did not differ from those from which the patient had suffered during the preceding year, while, as has been said, the subsequent attacks were entirely dissimilar.

The long-continued nausea, in the absence of a better explanation, would appear to have been due to reflex irritation along the course of the pneumogastric, or through the sympathetic, and the attack of aphonia to inflammation of or pressure on the recurrent laryngeal. The fact that the pelvic growth had not given rise to reflex symptoms during so many years would argue against attributing the nausea to this cause. Bright's disease, as a factor in the causation either of the asthma or the nausea, can also be eliminated.

The great relief following the withdrawal of so small an amount of fluid from the pericardial sac is not without precedent. A number of instances of like character have been recorded. In this connection it is interesting to note the surprising distensibility of the sac in the presence of effusion, as reported by several observers. Thus Kidd[1] withdrew thirty-three ounces at two tappings, closely following each other, and West, from another patient suffering from purulent pericarditis, removed two quarts.

I have no explanation to offer for the occurrence of the intense abdominal pain just before death. It did not appear to be referable in any way to the heart, neoplasm, or bladder. The question as to whether it was due to the passage of a stone, and whether an underlying uric-acid diathesis was the factor in the production of the pericarditis and the cystitis is an interesting one. The history of the patient, however, would argue against this supposition.

The intermittent pulse, or *pulsus paradoxus*, developed by this patient, although claimed to be practically an always-present symptom of pericarditis with effusion, is said by West to be an exceedingly

[1] *Lancet*, February 2, 1895.

rare phenomenon. "Pulses which vary with respiration are not at all uncommon in the minor degrees, especially in cases of heart disease; but the regularity is then nearly always cardiac in origin, that is to say, the irregularity of pulse is due to irregularity of the heart's action. The true *pulsus paradoxus* is essentially different. Here the heart continues to beat regularly, although the pulse intermits, and this intermission occurs during each inspiration, lasting as long as inspiration lasts." It perhaps will be remembered that at the time this character of pulse was noted in this patient the heart action was rapid and very irregular. A stethoscope applied over the heart at the same time that a finger compressed the radial pulse, however, left no room for doubt as to the stoppage of the latter during each inspiration independently of the regularity of the cardiac pulsation.

SOME STATISTICS UPON SERO-THERAPY IN TUBERCULOSIS.[1]

By J. EDWARD STUBBERT, M.D.,
of Liberty, N. Y.

As a result of some years of investigation by eminent men, such as Koch, Maragliano, de Schweinitz, Trudeau, and many others, there seems to be among the profession a growing belief that there will be found a specific or immunizing agency, either in the bodies of the tubercle bacilli or in the serum of animals which by repeated injections of virulent or attenuated cultures of the same have been rendered immune. Which one of these beliefs, if either, will prove correct is still to be determined. Unfortunately many failures have been recorded from the use of the crude tuberculin, old and new, of Koch, Kleb's modification, and other extracts of the bacilli. There has been created a rebound of feeling amounting to distrust of all tuberculins and sera which makes the profession exceedingly cautious in accepting data put forth as evidence of the value of serotherapy in tuberculosis.

History.—Among those inclined toward a specific mode of treatment the trend of opinion seems to be in the direction of antitubercle serum as derived from animals rendered partially immune by repeated injections of attenuated cultures of the tubercle bacilli. The history of antitubercle serum may be said to date back as far as 1890, although some unpublished work was done before that time. In that year Bernheim and Bertin both attempted the transfusion of goat's blood for tuberculosis. The next year Coupard and St. Hilaire used dog-serum in the form of intertracheal injections, and Haricourt treated human subjects with dog blood-serum. In 1894 de Schweinitz succeeded in producing partial immunization of guinea-pigs; Babes in 1895 made some experiments with dog serum; Maragliano has for the past three years treated tuberculosis with asses'-serum. Behring asserts that he has produced an antitubercle serum capable of arresting tuberculosis in small animals; Paquin has been engaged in experimentation along this line since 1894, and numerous excerpts have been published by different practitioners who have claimed excellent results from the use of this serum.

Theory of Action and Method of Preparation.—While tuberculin, antiphthisin, tuberculosidin, and other extracts composed of the toxin of the bacilli are supposed to act indirectly upon the germ when injected into man the antitubercle serum such as prepared by de Schweinitz and Maragliano is supposed, when introduced into the human body, to have an antitoxic effect. In manufacturing antitubercle serum, dogs, goats, asses, horses, and cows have all been used, but the horse seems to be the favorite animal in the hands of most experimenters. The methods of preparation of antitubercle serum employed by each of the aforesaid scientists differ.

Perhaps one fault is that we treat too much the effect rather than the cause of this disease. Acknowledging the claim that the injections of the serum of an animal rendered immune will reinforce Nature's own forces which are striving to correct a diathesis inherited, a soil already prepared for the nourishment of the bacilli, we find ourselves looking toward immunizing our patient; therefore the use of the antitubercle sera of Maragliano, de Schweinitz, and others. The tubercle bacilli are inhaled in all of our large cities by the majority of their populations, and we find that only five to eight per cent. contract the disease; therefore there are in Nature forces which, if properly reinforced, may battle successfully with these germs even if the odds are against them.

In 1894 de Schweinitz began treating animals for the purpose of providing possible immunity or resistance to tuberculosis by attenuated cultures. He says: "The production of this *partial immunity or artificial resistance* by attenuated cultures, already in 1894 suggested the advisability of this same method for the production of a serum that would have some effect in curing tuberculosis. Two cows and one heifer were first selected and treated with tuberculin or injected with the liquid culture-media in toto, including the germs just as obtained from the incubation without any other treatment. The first few injections caused slight reaction and occasionally local edema or abscess was produced; subsequently this decreased. Guinea-pigs were then injected with the

[1] Read at the Fifteenth Annual Meeting of the American Climatological Association, Bethlehem, N. H., September 1, 1898.

serum taken from these animals and subsequently were inoculated with virulent cultures. The checks died within four or five weeks." He says further: "Without giving the details of the experiment *we may say that the serum from the cows treated with tuberculin would cause, in pigs, slight resistance to the disease;* the serum of those treated with attenuated bacilli produced more resistance on the part of the animals, but not sufficient as compared with the quantity of the culture injected to make the use of cow-serum practical. The cow-serum, although sterile, frequently produced abscesses in guinea-pigs. While these experiments were in progress two horses were pressed into service and were injected with attenuated culture fluid and bacilli; after a time the abscess formation almost ceased." The effect of the serum he also tried in preventing the rise in temperature and in counteracting a fatal dose of tuberculin in tuberculous guinea pigs. There is one encouraging point to be noted in this connection—that these experiments have been made upon guinea-pigs which are well known to be very rapidly affected by tuberculosis. By noting that the immunizing is a gradual process it would seem that the resisting powers ought to be proportionately better in the human subject. De Schweinitz finally says: "*The experimental results obtained lead undoubtedly to the conclusion that the treatment with antitoxic serum is still in the experimental stage and should as yet be used only in sanatoriums and under the best conditions. We are on the road to success in the treatment of this disease, and nearer our goal than ever before.*"

Statistics at Large.—The favorable results reported so frequently from the use of different antitubercle sera by numerous physicians lead members of the profession to be suspicious, fearing that there might be a commercial side to the records presented, especially when our desks are loaded down with short résumés of five or six cases treated with one particular serum or another by men who have not been known among their professional brethren before the appearance of these reports. This mistrust is especially engendered when these same reports are published at the expense of and offered to us by the commercial houses controlling the output of the different sera. Still there have been among the many reported cures a sufficient number that seemed credible, and the names of a few of the investigators and reporters have stood so high in the profession as to make it obligatory upon us to investigate constantly and carefully along the line of serotherapy in the treatment of tuberculosis. Maragliano claims good results and other men of note have reported a few favorable cases from its use.

While we should strongly urge the need of still adhering to the climatic, hygienic, and dietetic treatment that long experience has established it would appear to be our duty to constantly search and investigate, by the records of accumulative cases, for further evidence as to the efficiency of serum treatment. Dr. de Schweinitz, Director of the Biochemic Laboratory of the Bureau of Industry, Washington, D. C., some two years ago proposed placing in the writer's hands, on non-commercial, purely scientific grounds, an antitubercle serum manufactured by the Government, to be used for purposes of experimentation. Having been impressed by the sincerity of this proposition the writer immediately began to treat patients under his care at the Loomis Sanitarium at Liberty, N. Y., and in private practice for the purpose of ascertaining if possible whether they could not only be cured but immunized by this treatment; and in following this line of investigation he has been led to use in a few cases incidentally, in addition to the de Schweinitz serum, Paquin's antitubercle serum, Fisch's serum, Hirschfelder's oxytuberculin, and Pasteur's antistreptococcic serum.

Remarks. — Dr. E. G. Janeway of New York tells me he has known but one favorable result from the use of antitubercle serum, and that was in a patient of Dr. Trudeau. Dr. S. S. Jones of New York City has used this serum in three cases, two in the incipient stage, and one far advanced. His observations in these cases lead him to believe that this serum is possessed of tonic qualities but no specific virtues. Dr. R. M. Meade of Brooklyn has used antitubercle serum in four cases, with very gratifying results. The writer has treated two patients living in New York City, one of whom did remarkably well, while in the other the results were unfavorable; the first case was in the incipient stage, the other one in the far-advanced stage.

The serum of Dr. Fisch was tried in six cases at the Sanitarium, but as every one of the patients showed bad results they were transferred to other serum or treatment. Some of the bad results encountered from the use of this serum were eruptions and severe reactions. Paul Paquin's serum was also used in about eight cases, but as the percentages of good results were lower than from the use of other serum its use was finally abandoned. Very severe reactions were encountered from the use of this serum. In one case the bacilli disappeared for a short time but subsequently reappeared. It is but just to these gentlemen to state that other observers have reported favorable results from the use of their sera.

Class in Which Indicated.—The use of antitubercle

serum would seem to be indicated only in incipient cases, and in those presenting a pure culture or simple infection. This of course refers to those patients whom we hope to be able to cure. In the writer's experience it has seemed in a few advanced cases to temporarily retard the progress of the disease; it reduced temperature and increased materially the strength of the patients. I remember one patient especially whose physical signs were as fol lows: Dulness over entire right lung; cracked-pot resonance to second interspace; large mucous râles right side to nipple; gurgles and subcrepitant râles second interspace; crepitant and creaking râles right side posteriorly; amphoric respiration over site of cavity; increased vocal resonance and bronchial respiration apex to nipple. This patient had become so ill as to be confined to one of the infirmary beds of the Sanitarium, and was unable to walk even across the room. Every possible effort had been made to ameliorate her condition but without success. To please her, against my judgment, simply as a placebo, I directed that she be given 1 c.c. of de Schweinitz's serum on alternate days. Within a short time her appetite returned, her temperature was slightly reduced, she was able to move around the room, and finally, to my astonishment, I met her one day walking around the Sanitarium grounds. The effect upon this patient was of course only temporary, and after a few months she died. Generally speaking, the use of antitubercle serum would seem to be *contraindicated* in the third stage of pulmonary tuberculosis, cases of marked softening or excavation, those of marked hereditary taint, in patients presenting a very rapid action with relative feebleness of arterial pressure, and in those in whom corpulence, vital capacity, and conformation of the chest are much below the normal standard; also, in cases of marked mixed infection. Maragliano does not, I believe, agree with this statement, claiming that the use of antitubercle serum is indicated in all cases and in all stages.

Accidents in Administration.—There seems to be but little if any danger attendant upon the administration of serum if the proper precautions in the way of antisepsis are observed in its use. Urticaria, erythema, and other forms of eruptions, sometimes swellings, in different joints, especially in patients presenting a rheumatic diathesis, painful swellings at the point of injection, stiffness, pain, enlargement of the axillary glands, and myalgia are met with in a small percentage of cases. These symptoms, however, are not dangerous, only annoying, and even in the small percentage of patients who present them are seldom repeated during subsequent treatment. The only really alarming symptom that has ever been observed by the writer has been sudden attacks of syncope lasting from one to two minutes. Some claim this is due to the serum being passed directly into a small vein, while others say it is caused by too frequent injections at a given point.

Clinical Symptoms in Successful Cases.—The advantages of serum treatment are: first, it does not tax the functions of digestion or produce gastritis, diarrhea, or loss of appetite; second, in subjects from whom the bacilli have disappeared, they have been lost while sputa were still present, whereas in creosote cases the last specimens of sputa contained bacilli; third, up to the present time *no relapses have occurred* among our patients apparently cured by serum treatment; relapses are not unfrequently met with in creosote cases. Some of our serum patients after leaving the Sanitarium have been subjected to rather serious climatic and hygienic tests without mishap.

The writer has lately examined between fifteen and twenty patients treated with serum, and has not found one who had redeveloped the disease; on the contrary, all have been enabled to remain in their homes and at their work. All these patients have been away from the Sanitarium for periods varying from six months to one year and a half. *There would seem to be established a certain immunity in subjects apparently cured by serum, but how lasting this may be is still to be determined.*

Length of Time of Administration.—The average length of time that antitubercle serum can be given advantageously in cases *improved* or *arrested*, but not cured, would seem to be about six or seven months, and thereafter appears not only non-utile but gives rise to unpleasant symptoms. In patients apparently *cured* under the administration of serum it has been my custom to continue its use for two or three months after the disappearance of tubercle bacilli. In these cases no unfavorable results have been noted from its long use.

Antistreptococcic Serum.—While, as seen above, the results from the use of antitubercle serum have been somewhat encouraging in cases showing a pure culture, the most alarming symptoms and trying complications with which the physician meets in tuberculosis are due not to the tubercle bacilli but to the cocci of mixed infection. The most virulent one of these seems to be the streptococcus, and the profession is watching with great interest the result of the use of Marmorek's antistreptococcic serum in the hope that in tuberculosis with mixed infection (the most common variety) the disease may be reduced to one of simple tuberculous infection that will more readily yield to antitubercle serum. This hope is a legitimate one in view of the results reported from

its use in erysipelas, active abscesses, pelvic inflammation, otitis media, and acute and chronic suppurative processes generally. Paquin claims to have obtained good results in almost all cases of mixed infection from the administration of antistreptococcic and antitubercle serum on alternate days. Knopf, in the *Medical Record* of February 13, 1897, recommends its use in early cases, remarking that generally good results are not to be looked for when the temperature is higher than 101° F. Weaver, in the *Journal of the American Medical Association*, reports a case in which one dose of this serum reduced the patient's temperature from 105° F. to nearly normal, but he fails to state whether it remained so. Cox, in the *Journal of the American Medical Association* for September 11, 1897, refers to three successful cases of Weaver, and beyond that deals in generalities and hopes.

The writer has been led to employ Pasteur's antistreptococcic serum in six cases of mixed infection (selecting, of course, only such cases as showed streptococci), believing that if the secondary infection could be neutralized a clear field would be left for the supposed action of the antitubercle serum. In the first case only one injection was employed; expectoration ceased immediately for a number of days, and then returned in diminished quantity; on examination the streptococci were found to be far less numerous. The next patient had suffered from chronic bronchitis for three or four years and developed tuberculosis a short time before entering the Sanitarium, about sixteen months ago. Tubercle bacilli disappeared under treatment but bronchitis remained. The sputa were mucopurulent in character and contained streptococci. One injection of the antistreptococcic serum was given, after which cough and expectoration increased materially. After a few weeks the patient began to improve and expectoration decreased somewhat in quantity, and became very markedly less purulent in character. This patient is now living in New York, and after five months the streptococci have reappeared. The next patient had a dry cavity at one apex. She had done very well at the Sanitarium. She was given four injections of the antistreptococcic serum, after which the streptococci disappeared. This patient is still an inmate of the Sanitarium, and her sputum still contains tubercle bacilli.

The next case was that of a young lady whom I have treated, first as a private patient then as an inmate of the Sanitarium for the past fifteen months. Tubercle bacilli disappeared from her sputum, the physical signs cleared up, and she was about to return home cured of tuberculosis. However, she also had a history of chronic bronchitis, but with scanty expectoration. About the time she was about to be discharged from the Sanitarium numerous and long chains of streptococci were discovered in her sputa, and she was immediately given an injection of 10 c.c. of antistreptococcic serum, and two days later a second injection of 10 c.c. After the first injection a slight increase of expectoration was observed, but a few days after the second injection no streptococci could be found nor could be for four months, at the end of which time they reappeared. In a fifth case three injections were given, but without any effect. The sixth patient was given two injections at intervals of ten days. After the first injection the streptococci were greatly reduced, and after the second injection they had disappeared entirely. This patient is still an inmate of the Sanitarium and at the end of six weeks the streptococci had not reappeared.

I cannot agree with the statement that it is advisable to administer this serum at such short intervals as forty-eight hours, as in the only two cases in which I have done so there have been marked systemic disturbances. It is certainly more comfortable to the patient, and the results have appeared to be equally good when from one to three weeks have been allowed to elapse between the injections. Generally, the sreptococci decrease very greatly or disappear entirely after the second administration of the serum, and in exceptional cases, one injection may be all that is necessary. The largest number of injections given by the writer to any one patient suffering from pulmonary infection has been four.

The results recorded above have led the writer to adopt the plan of using this serum regularly in conjunction with the antitubercle serum, but less often than recommended by some others. The question of the efficacy of this serum would still seem to be *sub judice*, but in all sanitariums and in private practice among specialists in this disease, where a sufficient number of cases of this mixed infection can be found, a careful investigation carried on during the coming year would be interesting.

A summary of the results of eighty-two cases of all classes treated at the Loomis Sanitarium is given below. These cases have been divided for convenience into three classes—incipient stage (slight localized involvement of lung, with little or no constitutional disturbances); moderately advanced (more general consolidation of lung, with constitutional disturbances and beginning of softening or single cavity), and far advanced (softening and excavation, with marked constitutional disturbances).

Number of patients treated, 82. Expectoration decreased in 82 per cent.; appetite improved in 81 per cent.; weight gained in 78 per cent.; physical

signs improved in 78 per cent.; temperature decreased in 49 per cent.; bacilli disappeared in 13 per cent.; apparent immunity established in 21 per cent.; bacilli decreased in 35 per cent.; cough decreased in 79 per cent.; generally improved 78 per cent.

NOTE.—The percentage of good results from the use of antitubercle serum, as regards temperature and tubercle bacilli, are less during the summer than winter months, and it is an interesting fact that this remark can be applied to all lines of treatment. Incidentally, I wish to state that I have been very much surprised during my two-winters' experience at Liberty to find that in patients in whom the average power of resistance was not very low high winds and exercise in unprotected places has not been detrimental. On the contrary, patients have improved far more rapidly than during the comparatively mild weather.

The treatment of cases of laryngeal tuberculosis has received special attention at the Sanitarium, and the results compare most favorably with reports from other health-resorts. The results in these cases have been as follows: Patients in whom the ulceration healed, 50 per cent.; in whom there was no ulceration, but in whom the disease was arrested, 46 per cent. In these laryngeal cases serum has been used in seven, and although no immediate results were apparent in the larynx it is possible that the serum contributed in some degree to the favorable percentages.

I wish to place myself distinctly on record as not being as yet a thorough convert to sero-therapy in the treatment of tuberculosis. I am simply an investigator of this subject. I believe that we are investigating along the right line; that the results of serum treatment are as a whole more satisfactory than treatment by any one drug, but as yet we have found no specific for this dread disease.

OPERATIVE GYNECOLOGY ON THE INSANE.

BY W. P. MANTON, M.D.,
OF DETROIT, MICH.;
PROFESSOR OF CLINICAL GYNECOLOGY AND ADJUNCT PROFESSOR OF OBSTETRICS IN THE DETROIT COLLEGE OF MEDICINE;
GYNECOLOGIST TO THE EASTERN AND NORTHERN MICHIGAN ASYLUMS FOR THE INSANE;
GYNECOLOGIST TO HARPER HOSPITAL.

THE forthcoming biennial report of the Superintendent of the Eastern Michigan Asylum, Dr. E. A. Christian, will contain a short summary of the gynecological operations which I have performed at this institution during the two years, July, 1896, to July, 1898. Twenty-eight operations, often several on the same patient, were performed on seventeen women, as follows: Vaginal hysterectomy, 3; abdominal hysterectomy, 1; celiotomy for intraligamentous cyst, 1; ventral fixation, 4; curettage and divulsion, 6; trachelorrhaphy, 4; perineorrhaphy, 3; anterior colporrhaphy, 1; posterior colporrhaphy, 1; occlusion of vagina, 1; removal of uterine polypus and submucous fibroids, 1; removal of hemorrhoids, 2. Subsequent to operation 4 patients were cured of mental disorder (23.52 per cent.), 3 improved mentally (17.64 per cent.), and 10 remained unimproved mentally. There was no mortality from operation. Of the 4 patients who recovered 1 had melancholia, the duration of the mental attack being unknown; 1 had melancholia which had existed nine months; 1 had acute mania of ten-weeks' duration, and 1 had had acute mania for one year and seven months.

The recovery of mental health in more than thirty-three per cent. of the cases treated is certainly very encouraging, and could this result be attributed solely to operative interference, the popular, and to some extent professional, idea that insanity in the female is largely due to disease of the pelvic organs, and consequently curable by the removal of this disorder, would be conclusively demonstrated. But, while my large experience in gynecology among the insane leads me to ascribe all due credit to operative measures in the treatment of this class of the sick, I have repeatedly asserted as my opinion that, while surgery for the cure of local disease in the insane is an important means to an end, other factors must also be included as fostering the ultimate result. Thus the quiet and methodical habits of asylum life, food, internal medication, and the regulation of bodily functions must all be looked upon as contributing to the general upbuilding of the patient's physical health and of equal importance in the re-establishing of mental integrity. The day, which never existed in this institution, when normal structures were removed for the cure of insanity is happily long since passed, its memory alone remaining as an ugly stain upon the fair page of enlightened, progressive surgery.

What I do believe, however, and have maintained for more than a decade, is that the insane woman suffering from pelvic disease is as much entitled to relief from her somatic ailment at the hands of the State or individual as she is to housing, the clothes she wears, or the food she eats. Morally or legally there exists no right to confine these patients within asylum walls and permit them to drag out a wretched existence hampered not only by the "blot on the brain," but also by physical suffering which can be relieved. If the combined results of asylum treatment and surgical procedures succeed in bringing about a cure of the mental malady there is great rea-

Form of Insanity.	Duration.	Condition Requiring Operation.	Nature of Operation.	Results of Operation.	Subsequent Course of Mental Disease.	Remarks.
1. Melancholia.	1 year 8 months.	Chronic metritis.	Vaginal hysterectomy.	Cure of local disorder.	No change; patient committed suicide 9 months later.	
2. Dementia, chronic.	20 years.	Uterine polypus, submucous fibroids.	Removal and enucleation.	Cure of local disorder.	No change mentally.	
3. Dementia monomania.	10 years.	Extreme recto-cystocele.	Occlusion of vagina.	Temporary relief.	No change mentally.	
4. Dementia, epileptic.	13 years.	Retrodisplacement of uterus.	Ventral fixation.	Cure of local disorder.	No change mentally.	
5. Periodic insanity.	13 years.	Procidentia, complete.	Vaginal hysterectomy, perineorrhaphy.	Cure of local disorder.	Improved mentally.	Now with friends.
6. Periodic insanity.	28 years.	Laceration of cervix, endometritis.	Divulsion, curettage, trachelorrhaphy.	Cure of local disorder.	Improved mentally.	Now with friends.
7. Melancholia.	(?) years.	Retrodisplacement of uterus, prolapse of one ovary.	Ventral fixation.	Cure of local disorder.	Recovered mentally.	
8. Paranoia.	6 years.	Retrodisplacement of uterus.	Ventral fixation.	Cure of local disorder.	Improved mentally.	Great physical improvement.
9. Melancholia.	9 months.	Laceration of cervix and perineum.	Divulsion, curettage, trachelorrhaphy, perineorrhaphy.	Cure of local disorder.	Recovered mentally.	
10. Dementia monomania.	5 years.	Laceration of cervix, endometritis.	Divulsion, curettage, trachelorrhaphy.	Cure of local disorder.	No change mentally.	More comfortable, neater.
11. Dementia, chronic.	18 years.	Procidentia, complete.	Vaginal hysterectomy.	Cure of local disorder.	No change mentally.	More comfortable.
12. Dementia monomania.	10 years.	Carcinoma uteri.	Abdominal hysterectomy.	Recurrence of disease in pelvic tissues.	No change mentally.	
13. Mania, acute.	10 weeks.	Laceration of cervix, endometritis.	Divulsion, curettage, trachelorrhaphy.	Cure of local disorder.	Recovered mentally.	
14. Periodic insanity.	9 years.	Intraligamentous cyst.	Abdominal section, removal of cyst, appendages, ventral fixation.	Cure of local disorder.	No change mentally.	
15. Dementia, chronic.	19 years.	Endometritis, hemorrhoids.	Divulsion, curettage, removal of hemorrhoids.	Cure of local disorder.	No change mentally.	Not as troublesome at menstrual periods.
16. Melancholia, chronic.	19 years.	Procidentia, partial.	Anterior, posterior colporrhaphy, perineorrhaphy.	Cure of local disorder.	No change mentally.	Not as complaining.
17. Mania, acute.	1 year 7 months.	Endometritis, hemorrhoids.	Divulsion, curettage, removal of hemorrhoids.	Cure of local disorder.	Recovered mentally.	

son for congratulation; but if, in spite of all, the disordered mind still remains disordered there is satisfaction in the knowledge that in bringing bodily relief to one of these unfortunates we have proffered the "cup of cold water," and in this have our reward.

The accompanying tables show the form of insanity, its duration, the local disorder, nature of the operation undertaken, and the results in the seventeen women upon whom operations were performed.

CLINICAL LECTURE.

TREATMENT OF FRACTURE OF THE PATELLA.

BY LEWIS A. STIMSON, M.D.,
OF NEW YORK;
PROFESSOR OF SURGERY IN THE CORNELL UNIVERSITY MEDICAL COLLEGE.

THE patient brought before you to-day is a man thirty-five years of age, who yesterday, while stooping and forcibly lifting with his hips and knees flexed, felt something give way at his right knee. He did not fall, but found himself unable to use the limb because of lack of power. On examination we find across the front of the right knee-cap a transverse gap, into which the finger can be slightly sunk; a gap which marks the separation between the upper and lower halves into which the patella has been broken. The line of fracture is transverse, and about at the middle of the bone. By pressing with the end of the finger on either side of the knee just beyond the border of the patella and in line with the fracture, the sense of diminished resistance in the capsule of the joint can be felt, an indication that the capsule is torn transversely at this point, the rent in the capsule extending on each side in line with the line of fracture. There is slight distention of the joint, due doubtless to blood and to increased synovia. The separation when the knee is fully extended and the patient making no effort, is rather more than half an inch.

The mode of production of the fracture is, as the history shows, indirect; that is, the bone has been broken by a strain exerted upon it on the one side through the ligamentum patellæ, on the other through the tendon of the quadriceps. This is the usual method of production of this fracture, and fractures thus produced present difficulties in treatment which are not usually found in fractures due to direct violence, those in which the blow has been received upon the front of the patella. The reason of this difference is that in fractures by direct violence, unless the blow is accompanied or followed by contraction of the attached muscle, the fragments are but slightly separated, and are held together by the fibro-periosteal layer which so thickly covers the front of the bone, while, on the other hand, in fractures by indirect violence this layer is completely ruptured transversely, and as its rupture habitually takes place, in part, at least, at a different level from that of the break in the bone, a portion of it remains as a fringe, which drops in between the fragments. This fringe may also be associated with long, shreddy strips of fascia torn loose at a lower level, remaining attached to the upper fragment and lodging between the two parts of the bone. Such strips of fascia and such a fringe are obstacles to close approximation of the fragments, and may prevent not only bony, but even close fibrous union between them.

If now I take the upper and the lower fragments between the thumb and finger of either hand, I can press them together, and can even get, on moving them sideways when thus held together, a little crepitus. This is not a proof that a fringe is not present in the case.

Diagnosis having been made, the question of treatment is next in order, and the first question to be determined is whether the treatment shall be by operative or non-operative methods. That question is one in which other things are to be considered than the probability, or, I might say certainty, of obtaining only fibrous union if non-operative methods are used; and, on the other hand, the probability that by operative methods bony union can be obtained. Close fibrous union, or even union by a bond half an inch long, is entirely compatible with good functional use of the limb, and such union can probably, as I have said, be obtained by non-operative methods. The chance of a failure of union, or of a union of a character that will lead to more or less disability, is not a great one. On the other hand, operative interference exposes to the risk of infection of the wound and subsequently of the joint, and of serious complications, including even amputation of the limb or the death of the patient. Under operations properly performed and with all the precautions which go to make up the proper performance of a surgical procedure, such a risk is very slight, but in my judgment an operation should not be undertaken except by those who are in the habit of operating, and who can have the aid of trained assistants. Although I have long habitually used operative methods in the treatment of this class of cases in hospital, and although my own experience, like that of many others, is free from disastrous results, yet I have never taught that operative treatment should be routine treatment, but that, on the contrary, the general practitioner, and even those who occasionally practise surgery, were not only justified in resorting to non-operative treatment of fracture of the patella, but even that it was their duty so to do, the reason being that the superiority of the results obtained by operative treatment over those of non-operative methods was not sufficient to warrant the incurring of risks which would accompany operation at the hands of those who could not bring to it the experience and the trained assistants I have spoken of.

The method which I habitually employ is one which I deem peculiarly safe, because the operation can be done without once touching the divided tissue with the fingers, and it is through the fingers that the principal risk of infection comes. The reasons for resorting to operation when the operation can be surrounded with all these precautions are: That the exposure of the seat of fracture enables the surgeon to remove those causes of failure of union which exist in a certain, but I think not large,

proportion of cases. Against those causes of failure non-operative methods are powerless. I refer especially to the long strips of fascia above mentioned, and to long, broad fringes of the fibroperiosteum.

Furthermore, when the joint is largely distended by blood and synovia, that distention in itself opposes and may prevent close approximation of the fragments. An open incision, by allowing the contents of the joint to be evacuated, removes this obstacle.

I shall say nothing now about non-operative methods, but speak only and briefly of the method of operation which will be done in your presence. The object of operation is to empty the joint, force the fragments together, and keep them together until repair is effected. The influence of the quadriceps in separating the fragments is not great. If the patient is recumbent, with the foot raised a few inches above the bed so that the knee is straight and the hip slightly flexed, the voluntary contraction of the quadriceps cannot separate the fragments more than one-quarter, or perhaps half an inch. In the absence of such contraction of the quadriceps the fragments remain quite close together and can easily be held together. For that reason, and also because of the more prolonged manipulations and the handling of the parts necessary to drilling holes in the bone for the insertion of silk or silver sutures, I do not employ that method of suture, but content myself with catgut or silk sutures placed only in the fibroperiosteum, or sometimes running across the front of the bone from the ligamentum patellæ to the tendon of the quadriceps. The rent in the capsule on each side is an important condition because of the lateral shortening of the capsule which may be effected by the cicatricial contraction following its repair. It is desirable, therefore, that the sides of those rents should be brought closely together in order that their reunion may take place with as little interposition of the cicatricial tissue as possible. The approximation of the fragments may be sufficient to effect this adjustment in most cases, but I like to insure it when practicable by one or two catgut sutures closing each rent. I habitually use a central longitudinal incision, extending the whole length of the patella. A transverse incision, straight or curving, more readily exposes the rent in the capsule, and permits the easier application of sutures to those rents, but it divides more and larger blood-vessels, and the scar is, I think, not quite so desirable as the straight central one.

The method of operating, then, is as follows: A straight incision is made from a little above the center of the upper border of the upper fragment to a point a little below the apex of the lower fragment, and is deepened until the gap between the fragments is reached. The fringe, if one is present, is then raised from the surface of the fracture, and such clotted blood as may be adhering to those surfaces is scraped off. Then two sharp retractors are passed into the gap between the fragments and hooked under them, and while the fragments are lifted by them the joint is thoroughly washed out with a hot, sterile salt solution. This is then removed with a sponge, and the fragments drawn together, usually by a tenaculum engaged above the upper fragment to draw it down. The fringe is spread out over the fragment from which it has been torn, and two or three catgut or silk sutures are passed from the periosteum of one to the periosteum of the other. I engage these sutures at a little distance from the edge of the fracture, say one-fourth inch, passing the needle transversely for one-fourth or one-half inch on each fragment, so as to give a better hold in the fibroperiosteum. Then with a sharp retractor one side of the incision is drawn firmly aside so as to expose the rent in the capsule, and a suture is placed across it close to the patella, and sometimes a second beyond it. Similar sutures are placed on the other side. The incision in the skin is then closed with silk sutures, and dressings applied. The limb is placed upon a Volkmann's splint, and at the end of about a week the skin sutures are removed. Two or three days later a plaster-of-Paris splint is applied and the patient allowed to get up, and even to go home, if he desires. At the end of a month the plaster splint is cut down longitudinally in front, and the patient is told to wear it during the day and leave it off at night. The reason for wearing it during the day is to prevent sudden accidental forcible flexion of the knee, for in such an event the upper fragment might easily be prevented, by loss of mobility of the capsule or by its temporary retraction, from swinging around the lower end of the femur, and thus the lower frament might be forcibly torn away from it and refracture produced. During the second month the joint should gain rapidly in freedom and range of motion, and by the end of that month flexion to a right angle will, in all probability, be present, and the splint may be discarded.

Discussion of the methods of non-operative treatment and the measures which may be indicated after failure of union, or after union with disability, must be left for another occasion.

MEDICAL PROGRESS.

A Rival of the Famous Crowbar Case. — Barritt (*Lancet*, January 7, 1899) gives the details of a case which fairly rivals the famous instance in which a Vermont quarryman, while tamping home a blast, exploded the same and lost one eye, by reason of the crowbar passing clear through his head, entering below his chin and passing out through the frontal bone. He recovered and lived some years in unimpaired vigor, and his skull now adorns the Warren museum in Boston. Barritt's patient was a lad, aged fourteen, who rammed a muzzle-loading gun with a thirty-inch iron rod. The gun was cocked and had a cap on. The jar brought down the hammer, and the ramrod, which measured $\frac{5}{8}$-inch in diameter at its big end, passed point foremost into the boy's forehead over his left eye, and out of his left parietal bone. He walked 200 yards to the house, and rode three miles to a hospital. In three weeks his wounds were so far healed that he went home. There was a discharge during convalescence of a thimbleful of bits of gray matter of the brain. The aphasia and partial paralysis of the right arm which followed the accident gradually disappeared.

Traumatic Rupture of the Heart.—NEWTON (*Medical Record*, January 21, 1899) was summoned to see a healthy man, aged twenty-eight years, who, while riding rapidly, was thrown to the ground by a break in the head of the bicycle. He apparently clung to the handles and struck his chest with great force against a portion of the tubing attached to them. He staggered a few feet and then fell. He died in about ninety minutes. The skin was not broken, but showed the imprint of the broken end of the tube. The sixth costal cartilage was broken and its outer fragment had been driven against the heart with sufficient force to make a triangular tear in the right ventricle near the apex. The pericardium was not ruptured. In the forty odd cases of traumatic rupture of the heart which have been reported, in almost every instance there has been disease of the heart. In such cases the force necessary to rupture the organ is very slight.

The Influence of Alcohol on Muscular Work.—DESTREE (*Quar. Jour. of Inebr.*, January, 1899) has made a number of experiments to determine whether more work can be accomplished with alcohol than without it. The results obtained were uniform, and clearly showed that:

1. Alcohol has a favorable effect on the work product whether the muscle is weary or not.

2. This favorable effect appears almost immediately, but is very transitory.

3. Immediately afterward alcohol has a very decided paralyzing effect. About a half-hour after taking alcohol the muscular power reaches a maximum that subsequent doses increases with difficulty.

4. The paralyzing effect of alcohol outweighs the momentary stimulation, so that the total work-product obtained with the use of alcohol is less than that obtained without it. In other words, alcohol is a deceptive means of dulling the sense of fatigue, but its action is momentary, and in the end injurious, the paralyzing effect upon the nervous system increasing rapidly, and with such force that any momentary good effect cannot counterbalance them. Similar experiments with tea, coffee, and kola showed that the stimulating effect of these drugs, while less marked than that of alcohol, is continued longer, and is not followed by a paralyzing effect, as is the case with alcohol.

Pulmonary Hemorrhages in Different Months.—GABRILOWISCH (*Berl. klin. Wochen.*, January, 1899) by keeping careful records of 380 patients during a period of five years, found that 213 of them, or 56 per cent., at some time had a pulmonary hemorrhage. In 30 per cent. there was only a single hemorrhage. An interesting feature of his records is the fact that nearly all the hemorrhages occurred in the spring or fall of the year. Sixty-four patients who had hemorrhages and were carefully observed for one year with reference to this point, passed April, May, June, and July, without a single hemorrhage. For August, September, and January, there were recorded in each 2 hemorrhages. The greatest number occurred in February, March, and October, the numbers for these months being 14, 18, and 16, respectively.

If further records substantiate these data, it will be of considerable importance to a patient; for he may then know at what time of the year he needs to be especially careful.

Fistula between Ileum and Bladder.—MARCY (*Annals of Surg.*, January, 1899) mentions the case of a woman, aged twenty-six years, married but childless, who, after an attack of peritonitis, felt something give way in the abdomen, and soon after passed thin yellowish matter from the urethra. Sometimes there were attacks of cystitis afterward, and the passage of brownish-water, containing occasionally the seeds of berries, convinced the patient that there was a connection between the intestine and bladder. At operation such a communication was found between the fundus of the bladder and the ileum, about eight inches above the ileocecal valve. The fistula was one-third of an inch in diameter. The parts were easily restored to their normal relations, but cystitis persisted. A similar case occurred in a child aged eighteen months, presumably due to an attack of appendicitis, but in that case the intestine and bladder both communicated with the outside world through a common fistula. There was no cystitis, and the recovery after operation was prompt and perfect. Fistulas of this character are rare, while those between the bladder and rectum are relatively common.

THERAPEUTIC NOTES.

Treatment of Eczema by Naphthalin.—AKHVLEDIANI (*Rev. de Therapeut.*, January 15, 1899) has treated forty-three cases of acute and chronic eczema with naphthalin. If the eczema was moist he first applied a powder composed of 2 grains of salicylic acid, and 1 ounce each of oxid of zinc and talcum. When the area had thoroughly dried, he applied an ointment of lard containing ten per cent. of naphthalin. The dressing was applied every morning after the parts had been cleansed with soap and hot water. Pains and pruritus disappeared in a week, and then the induration. After two or three weeks it was necessary to renew the bandages only every two or three days, and in three or four weeks the parts were entirely healed.

Nirvanin, a New Local Anesthetic.—LUXENBURGER (*Munchen. Med. Woch.*, January 3, 1899) has tested a newly discovered local anesthetic which is chemically related to orthoform and which bears the name, diathylglycocollamidooxybenzoesauremethylester, but which he calls nirvanin for short. He has found a two per-cent. solution to work best in practice. It produces in five to ten minutes an anesthesia which lasts for twenty minutes, and which is sometimes followed by an unpleasant burning and pricking, although the drug has no disturbing effect on the healing of the wound. It has the advantage over cocain of being slightly antiseptic, so that solutions even of the strength of one-half per cent. will keep sterile. If one prefers to sterilize it the solutions may be boiled without injury.

The Medical News.

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INFLUENZA COMPLICATIONS,—SOME RECENT DISCOVERIES.

The recent epidemic of contagious disease associated with affections of the mucous membranes and certain general symptoms we have come to call grippal, seems to have about run its course in this country. We are still reading about its continued spread in Europe. In Vienna at present it is adding seriously to the death-rate. The last English medical weeklies that have come bring accounts of its malign presence in various parts of England. Under these circumstances the last report of the investigations of the Chicago Board of Health, as reported in our Chicago letter of this week, have a special interest.

We expressed the opinion, when grip was said to be epidemic in New York City, that it was fatuous to call every epidemic involvement of mucous membranes grip. Influenza is an infectious disease due to an easily recognized bacillus, and the study of that bacillus and of its biology and pathogeneity in these cases would be much more important for medicine than the acritical grouping of a series of clinically varied affections under the convenient term grip. Our desideratum has been fulfilled by the Health Board of Chicago through careful investigations, in these cases, of the Canon-Pfeiffer bacillus, but with results exactly the opposite from what might have been anticipated. Instead of lessening the number of cases of influenza, careful bacteriological study has shown, as may be seen from the report, that when grip is rife it occurs as a complication in many diseases in which, although the symptoms are perhaps suspiciously atypical or irregular, there is nothing definite by which the presence of grip may be recognized clinically. As a matter of fact most of these cases escape even the suspicion of having in them an influenzal complication.

Not alone pneumonia, which has been known for some time to have tendencies to coquette with the bacillus of influenza, has been shown to be due in a number of cases to the Canon-Pfeiffer bacillus, but diphtheria has been found to be often complicated by it, and what seemed clinically to be diphtheria has proved on culture investigation to be due to a pure culture of the influenza bacillus. Still more striking is the fact contained in an additional memorandum from the Chicago Board of Health, and not embodied in its January report because the investigation was not yet completed. In a number of cases of what clinically seemed to be infectious parotitis, ordinary mumps, the influenza bacillus was found present in large numbers in the bronchial secretion.

These observations are extremely suggestive and do much to explain the atypical symptoms so often noted during supposed grip epidemics and the oft-noted tendency to the occurrence during such periods of other ordinary diseases and usually with more severity. The Chicago Board of Health is to be sincerely congratulated on the good and timely work it has done in the matter. We hope to hear more of it.

HEART WOUNDS AND THEIR PROGNOSIS.

It is interesting to note the change that has come over medical opinion in the last few years with regard to the fatality of wounds of the heart. The prognosis of even slight wounds of the organ was formerly considered absolutely unfavorable. When animals were encountered in whose hearts appearances were noticed (and they were not infrequent) that we now know to have been the result of

healed cardiac wounds, it was thought that these were due to congenital anomalies or acquired pathological changes, but not traumatic in origin. Penetrating wounds were set down as unfailingly mortal, but we have changed all that. Only the other day here in New York the coroner found a bullet in the pericardial sac which had plowed a way for itself through more than an inch of heart substance, yet the patient had lived for fourteen days after the shooting.

In the present issue of the MEDICAL NEWS Dr. Burtenshaw reviews the results of more than 100 cases of paracentesis pericardii, in only one of which was there any serious result, though the varying position of the heart in pericarditis makes it almost inevitable that it should have been more or less injured a number of times. There is, of course, no serious reason why a simple non-penetrating wound of the heart should ever cause death of itself, and even in cases of traumatic penetration Nature has shown that she has some marvelous resources at her command that make for conservation of the organism even under most unfavorable circumstances.

Laforgue's statistics of the results of heart wounds, all of which seem to have been substantiated by autopsy, are very striking. The reports of the cases in which cure occurred were collected from the post-mortem records years after the injury had been received, death having been caused by some other agency. In 56 cases of wounds of the heart, 18 were followed by immediate death, 21 patients survived for longer or shorter periods, and 17 completely recovered. Among the recoveries, in 4 cases the wound was inflicted by a pointed instrument, 6 times by a cutting instrument, 4 times by bullets, and in 3 cases by other forms of violence. It is clear that the manner of the violence does not influence the prognosis much. Even wounds of one coronary artery are not always fatal. Twice a healed lesion of the anterior coronary artery has been found at autopsy long years after the infliction of the heart wound.

A very important class of wounds of the heart, and much more fatal than might be imagined from the seeming insignificance of the injury and the instrument causing it, are those due to the voluntary or involuntary piercing of the heart by needles. Out of twenty-three such cases recorded by Terrier fourteen were fatal. The direction with regard to these cases is the immediate extraction of the needle, not the gradual removal that used to be advised. The wound of entrance is so small that loss of blood through it need not be feared, and delay in extraction has been the serious factor in these cases.

In the prognosis of heart wounds a good deal depends on the location of the lesion. Professor Rehn of Frankfort, whose report of a case in which he successfully sutured the heart after a penetrating wound turned attention generally to the possibilities of conservative surgery of the heart, gives his views as to the prognosis of any special wound of that viscus about as follows: It is not so much the clot that forms as the contraction of the heart-muscle itself that is the active agent in stopping hemorrhage. Where the muscle is thickest the danger of hemorrhage is least. Though the pressure of blood in the left ventricle is much higher than anywhere else, and this might suggest the conclusion that wounds here would be very easily fatal, the thick muscular wall usually serves as an excellent preventive of serious hemorrhage. Wounds of the right ventricle are not so favorable; of the auricles still less. Fortunately, the base of the heart where danger is greatest is protected by the bony sternum in front of it which turns aside many an otherwise fatal injury. In attempts at suicide the popular notion that the heart lies much lower in the thorax than it really does saves many a poor mortal from accomplishing his fatal purpose.

STEAM AS A THERAPEUTIC AGENT IN UTERINE HEMORRHAGE.

PROFESSOR DUHRSSEN of Berlin presented this subject and advocated the procedure at the last German Surgical Congress, giving due credit, however, to its inventor, Sneguireff. A condensation of his paper, with some later suggestions, appears in a recent number of the *Archiv für klinische Chirurgie*. As Professor Dührssen announces that he "can heartily recommend steam as a valuable addition to effective gynecological therapeutics," the subject seems quite worthy the attention of the profession in this country.

Professor Dührssen has found the intra-uterine steam douche of great service in all forms of uterine

hemorrhage, and especially (we quote his exact words) "in severe exhausting metrorrhagia in patients of forty and over, due to chronic metritis, with or without simultaneous hypertrophy of the uterine mucous membrane, and in obstinate uterine hemorrhage, due to abnormal friability of the uterine blood-vessels, or to the development of interstitial myomata." He has used it with extremely satisfactory results in cases in which the bleeding was so copious and uncontrollable that total extirpation of the uterus seemed the only alternative. He considers that his experience with it justifies him in saying that in this simple procedure every practitioner has a ready method at hand "without narcosis, without operative intervention, without causing the patient much pain (for the procedure is practically painless), of controlling uterine hemorrhage that threatens to be fatal, and in certain cases of saving patients from the serious operation of uterine extirpation which in their anemic condition would be extremely dangerous."

As Professor Dührssen is a well-known gynecological authority, not only skilled in operative work but placed in a favorable position for it whenever he deems it necessary, this expression of opinion must be considered sincere and should be allowed its fullest practical application. The technic is extremely simple: a spirit lamp is sufficient for heating water in any closed vessel to which a rubber tube may be attached for the conduction of steam. Even a domestic tea-kettle suffices if the top be tightly closed and the tubing attached to the spout. The rubber tube, as soon as a steady flow of steam is seen to be issuing from it, is slipped over a fenestrated catheter. This is inserted into the uterus, and the steam allowed to pass through. Two things must be carefully guarded against: the catheter where it touches cervical tissues must be thoroughly insulated by some non-heat-conducting material. Otherwise stenosis of the cervix is liable to result from cicatricial contraction induced by overheating. Professor Dührssen secures perfect insulation by slipping a rubber drainage-tube over the catheter at the point were it passes through the cervix. The second important precaution to be taken is that the steam must not be allowed to act too long, or the destruction of the entire mucosa will be followed by obliteration of the uterine cavity. Dührssen considers that, as a rule, one application of fifteen-seconds' duration is sufficient; this may be repeated later if necessary, and perhaps for a longer time. This intra-uterine steam douche has also been of life-saving service in cases of puerperal fever, especially those in which septic or putrid endometritis existed. Dührssen thinks it should form an excellent treatment for acute uterine gonorrhea. The gonococci may all be destroyed by a momentary application, and so all danger of the invasion of the tubes and ovaries precluded, a complication that none of the prevailing methods of treatment are able to prevent with any assurance, and the seriousness of which the whole of modern operative gynecology proclaims.

TYPHOID FEVER IN PHILADELPHIA.

WE print this week a protest from a Philadelphia physician against our arraignment of that city and its citizens for permitting the health of the inhabitants to be bartered away by a corrupt political ring; which ring holds the city councils in its grasp and absolutely refuses to allow the passage of any ordinance looking to the improvement of the city's water-supply with the accompanying assured prevention of typhoid fever. The best comment on that protest is the statistics of typhoid fever in Philadelphia during the very week that the protest was penned—FOUR HUNDRED AND TWENTY-ONE NEW CASES AND THIRTY-EIGHT DEATHS. We know these statistics show a much larger incidence of the disease and greater mortality than for the weeks immediately preceding and the reason is not far to seek. Following the severe wintry weather of the preceding weeks there was a thaw and contagious matter was washed into Philadelphia's water-supply, with the inevitable result. So it has been in the past; so it will be with every thaw this spring. Proofs are not needed, however, to convict Philadelphia's water-supply of being the cause of the prevalence of typhoid fever. There is no one whose opinion is worth considering who denies that.

It is sad to think that a Philadelphia physician should be found who practically defends this state of affairs. We cannot but think that our otherwise enterprising weekly medical contemporary in Philadelphia has been neglecting its duty in the matter of inculcating in the profession of the city proper sentiments on this subject. The patent-medicine abuse and the prescribing optician are deserving of atten-

tion but not to the exclusion of serious medical and sanitary questions like this. It is useless to deny the conditions that exist, it is almost criminal to attempt to palliate the evil that is so remorselessly carrying off its victims by the hundreds. What is needed is sincere, determined, united effort at reform.

Philadelphia's disgrace in this matter is known to the world and has been for years. The *New York Times* commenting editorially on our editorial on the subject said that no severer or more deserved censure of a city and its inhabitants was ever written. It especially insisted on our expression that "no Philadelphian should presume to raise his voice on any question of general interest and importance so long as this awful stigma attaches to the city."

It is a disgrace to every one who pretends to have any civic pride in the city in which he lives; a disgrace to all the intelligent voters, for it is a confession that they have sold their birthright to the politician's personal greed for plunder; a disgrace to the local clubs, founded for the purpose of instituting and maintaining clean politics and which now prostitute their influence to the lowest political purposes. After all, what matters it to them; they drink the sparkling bottled waters. But the poor who are unable to take this precaution, what of them? Great political clubs no longer have the mission they were supposed to have of guiding party action into proper channels; they have become the lounging places of those who fatten at the public crib.

Is there any one of ordinary intelligence in Philadelphia who does not feel acutely the awful disgrace of the present state of affairs? It is something that time will not remedy; it has grown worse not better during the last fifteen years. The extent to which the evil will spread during the next few years as more and more water is used for domestic purposes and the dangers of infection grow greater no one can foresee.

In two years the whole problem can be solved, the typhoid mortality annulled, the stigma of years wiped out. It has been done under much less favorable circumstances, in what we are pleased to call the Old World. It never will be done in Philadelphia until the too-conservative Philadelphians break from their disgraceful slavish submission to corrupt political parties and take into their own hands for the city's good and that of its citizens the management of municipal affairs.

A SUGGESTIVE DISCUSSION IN NEUROLOGY.

THE last meeting of the New York Neurological Society was of such general interest that we gladly give space in this number to an abstract of its proceedings. The discussion of Dr. Bailey's cases brings out clearly the modern view as to the lesion at work in most of the obscure cases of traumatic affections of the spinal cord in which the injury is not severe and bladder and rectum are not involved, yet the symptoms of actual lesion of the cord are clear, and the condition improves but slowly. Many of these cases come into the hands of the general practitioner, and it is well to know that while some years ago they were frequently considered as cases of intrameningeal hemorrhage, they are now generally thought to be cases of hemorrhage into the cord itself. Dr. George W. Jacoby's suggestion of the diagnostic and probable therapeutic value of lumbar puncture in these cases is a most welcome one, for, as a rule, the attendants' hands are absolutely tied and inaction in these cases is galling.

The most interesting phase of the meeting, however, was the discussion of two views that have been making important places for themselves in modern neurology. Dr. Hirsch's paper brought out the fact that the connection between infantile spinal paralysis in early life and spinal disease in later years is something more than incidental. The case he described is an apt illustration of the view, that is obtaining more and more adherents in these last few years, which postulates a relation of cause and effect, or at least of occasion and consequence, between the two spinal affections though separated from each other by a long period of years. Such latency for years, with subsequent pathogenic results, is not a new principle in pathology, but an exemplification of an old one which the history of tuberculous processes has made perfectly familiar.

The importance of this view as regards prophylaxis and the care that should be insisted on in the regulation of lives of subjects whose nervous systems have been crippled and rendered more liable to disease is evident, and makes a very practical contribution to neurology.

The further discussion of this case brought out another opinion not old in neurological circles as yet, that many of the so-called systemic diseases of the cord are really due to a diffuse progressive myelitis. There are those, we believe, whose opinions are of weight in neurological pathology, who hesitate to admit the existence of systemic or neuronic disease at all. Chronic inflammatory processes, with consequent overgrowth of connective tissue and progressive cirrhosis, are considered the real pathological condition underlying most diseases in the central nervous system. The new ideas are in the line of simplification, a not undersirable thing in neurology, and so deserve such thoroughly scientific discussion as was accorded them at the meeting.

ECHOES AND NEWS.

Serum-Cure for Pneumonia.—Professor Wasserman of Berlin, a pupil of Professor Koch, hopes that he has discovered a serum-cure for pneumonia.

Typhoid at Paterson, N. J.—There is an epidemic of typhoid fever at Paterson, N. J. Up to March 3d, twenty-eight cases had been reported. The epidemic is generally attributed to the Passaic River water.

A Hospital Closed.—The Staten Island Hospital closed its doors on March 2d after the last patient had been discharged. The managers announce that owing to lack of funds the maintenance of the hospital is to be temporarily suspended.

Lieutenant Wood Dies in Cuba.—First-Lieutenant James Wood, Assistant-Surgeon 202d New York Regiment, died on March 3d of pernicious malarial fever. Private Benjamin H. Davis of Company E., 1st Michigan, died of dengue fever.

The State Board of Charities.—Governor Roosevelt has nominated ex-Attorney-General Simon W. Rosendale (a Democrat) of Albany and Dennis McCarthy (a Republican) of Syracuse to be members of the New York State Board of Charities to fill vacancies.

Not a Pachyderm after All.—A school-teacher at Port Allegheny, N. Y., the other day received the following note: "My boy tells me that when I trink beer der overcoat vrom my stummack gets too thick. Please be so kind and don't interfere in my family affairs."

Hospital-Ship Sails for Manila.—The hospital-ship "Relief" with 200 hospital-stewards and nurses and a cargo of medical supplies has sailed from Norfolk for Manila. She will be used to carry sick and wounded soldiers from and to places in the Philippines.

To Fight Tuberculosis in Factories.—A section of the Central Federated Union of New York has endorsed resolutions calling for the appointment of a committee of labor men to cooperate with the Board of Health in preventing the spread of tuberculosis through neglect of sanitary laws in factories.

Bubonic Plague Raging at Bombay.—The Bombay correspondent of the London *Morning Post* states that the bubonic plague is raging in that city with unparalelled severity. During the week ending March 6th there were, according to the official returns, 972 deaths, but these quite underrate the mortality.

Military Surgeons to Meet.—Colonel Stark, secretary of the Association of Military Surgeons, has issued notice that the meeting, which had been postponed because of the war, will take place in Kansas City, May 24th to 26th, inclusive. All surgeons who served with volunteers now mustered out are invited to take part.

No Mercy for Mrs. Place.—At the monthly meeting of the Medico-Legal Society of New York, held on February 15th, a resolution was adopted to the effect that it was the sense of the society that the question of sex of the criminal convicted of homicide should be eliminated from the consideration of the executive in the exercise of the pardoning power.

To Elevate the Profession of Dentistry.—The American Academy of Dental Science of Boston and the New York Institute of Stomatology have combined in an effort to establish a higher professional plane for their department of medicine, to encourage journals independent of dental-supply houses, and to discourage the taking out of patents by professional men.

The Death of "Cavendish."—Henry Jones, who wrote treatises on whist under the *nom de plume* of "Cavendish," died on February 15th in London. He was by profession a surgeon, and was for twenty years engaged in active practice. In 1872, finding it impossible to do justice to both his literary and medical engagements, he decided to devote himself entirely to the former.

State Medical Examiners Reappointed.—Drs. George Ryerson Fowler of Brooklyn and A. Walter Suiter of Herkimer, representing the Medical Society of the State of New York, and Drs. Arthur R. Tiel of Matteawan and J. P. Nolan of New York, representing the Eclectic Medical Society, have been reappointed as their own successors on the State Board of Medical Examiners.

Age and Sleep.—Tesla says that negroes live to an advanced age because they sleep so much. He believes that a man has just so many hours to be awake and that the more of them he uses up in a day the shorter his life will be. A man might live to be two hundred if he could sleep most of the time. The proper way to economize time, therefore, is to sleep whenever there is nothing better to do.

Dr. Jenkins on the State Health Board.—Governor Roosevelt has appointed Dr. Wm. T. Jenkins of New York City a member of the State Board of Health to

fill a vacancy. Dr. Jenkins is Chairman of the Sanitary Committee of the New York City Board of Health, and it is provided that the member of the local Board of Health who holds that office shall be appointed a member of the State Board of Health.

A Member of the "Light Brigade" Dies —There recently died in Seattle, Washington, one of the "noble six hundred" who made the "Charge of the Light Brigade." He was Dr. Maguire. After receiving marks of honor for brilliant service in the Crimean War he resigned his service in the British Army to practice his profession in Australia, and afterward in San Francisco and Seattle. He was sixty-five years old when he died.

Medical Experts and Their Fees.—At the sixteenth annual meeting of the Society of Medical Jurisprudence, on the evening of February 18th. Justice William Rumsey made a speech in which he advocated the formation of public and professional opinion against the acceptance of fees by medical experts for testifying. The justice thought that experts should pass an opinion on facts brought out at the trial and that they should not help lawyers to bring out certain truths and withhold others.

Smallpox in Puerto Rico. — There are now about 1000 cases of smallpox in Puerto Rico, but there is little fear that the disease will spread beyond controllable limits. Dr. Azel Ames, Acting-Assistant Surgeon of the Hospital Corps, has begun the vaccination of the 1,000,000 inhabitants of the island in order to prevent an epidemic. A "United States Vaccine Corps" has been established at Cramo Springs. and it is expected the work of vaccinating will be completed before July 1st. The vaccine points are being prepared from cattle on the island.

Faith Healer Kills Himself.—Gottlieb Roehm, a faith-cure advocate, recently committed suicide in Brooklyn by taking rat-poison. It seems he could not live and endure the unbelief and the ridicule of his neighbors, one of whom had rheumatism and asked what he should do for it. "Tie a dog's tail to your leg," answered Roehm, "and if you have faith you shall be healed." The suicide left a note which read, "I have come to the conclusion that it is time for me to end my life. I have spoken to the Lord and it is with His consent that I do this."

Thick and Thin Lips.—Dr. A. Bloch, the French anthropologist, attacks the theory that thick lips denote sensuality, while thin and delicate lips denote spirituality, firmness, and elevated character. The scientist considers that the shape, size, and color of the lips are purely race characteristics, and that in the hybrid peoples of Europe and America, where there has been such an intermingling of races, a child may inherit from not very remote ancestors lip-forms that completely belie the actual character of the child, as indicated by the lip-theory. Dr. Bloch considers that really thick lips in the white races are always anomalies or freaks of Nature.

Another Christian-Science Manslaughter.—A man named Senior was recently convicted of manslaughter in England for allowing his child to die without medical aid. The case has been taken to a higher court and the conviction confirmed. The ground for the judgment was that the defendant had wilfully neglected his child. Seven of Senior's twelve children have died without medical aid being provided. This case shows clearly the difference between the death of a child and that of an adult. Harold Frederic being a grown person was supposed to be responsible for his own acts, and the charge against the Christian Scientists who treated him was therefore withdrawn.

Principles for Sale and—Sold.—Our Philadelphia contemporary is scarcely to be congratulated upon its early capitulation to commercialism as is evidenced in its issue of the 25th ultimo. The motto it early adopted "by the profession, of the profession and for the profession," sounded prettily and the austere code of advertising ethics announced in its opening issues possessed an alluring charm to those of the profession who feared the degenerating influence of commercial interests. How sadly potent is the sway of such influence may be measured by the brevity of the resistance offered by this champion of austere morals and its prompt surrender augers ill for the future of independent medical journalism.

New Yorkers Use Plenty of Water.—William Dalton, Esq.. Commissioner of Water-supply, in his annual report, states that the maximum daily supply of the system in Manhattan and the Bronx is 400,000,000 gallons. The reserve held in storage is 42,200,000,000, which, at the present rate of consumption, would be sufficient for the two boroughs for 182 days without the natural flow of the rivers from which the supply is drawn. During 1898 the draft on stored water for the old City of New York was 12,330,000,000 gallons. The minimum daily consumption in that year was 238,000,000 gallons in April, and the maximum 256,000,000 gallons in September. The average daily consumption was 243,000,000 gallons or 121 gallons per capita.

Artesian Wells in London.—A part of London suffered from a water famine last fall which caused people to inquire seriously as to what relief from present conditions can be obtained. It has been proposed to build an aqueduct from the Welsh hills. An easier solution of the problem seems to have been reached by some enterprising manufacturing establishments which have sunk artesian wells to a depth of more than 400 feet right in the city itself and have found an abundance of pure water. It is forced to the surface by means of compressed air. One concern pumps, in this manner, 840,000 gallons daily. A better idea may be gained of this enormous volume of water by saying that 117 such wells could keep the Croton aqueduct flowing at its full capacity.

Grip Increases Death-Rate.—There were 12,421 deaths reported to the New York State Board of Health during January, 1899. This was an average daily rate of 400. The number of deaths exceeds that of January, 1898, by 2800. From acute respiratory diseases nearly 3000 deaths were reported, 700 more than in December and

1200 more than in January, 1898. The increase was chiefly in pneumonia and acute bronchitis, which caused 23 per cent. of the total deaths. The most of this increase was due to the prevailing epidemic of grip, from which it was estimated that 1800 deaths occurred in December and 3000 in January. The mortality was relatively greatest in the rural parts of the State, the city of New York, with half the entire population, having but 600 of the 2800 increased mortality over January, 1898.

To Investigate Vaccination.—A bill has been introduced in the Assembly at Albany which provides for the appointment of a commission of five persons to be known as the "Commission on Prophylaxis of the State of New York," to investigate the nature and value of vaccination-serum, etc. The State Board of Health is to recommend to the Governor a physician who is in favor of the use of vaccination, antitoxin, and other serums as prophylactics, and the Brooklyn Anticompulsory Vaccination League of Kings County is to recommend a physician who is opposed to the administration of vaccine and serums. These physicians thus recommended will be appointed commissioners by the governor. The other three members of the Commission must be persons who have formed no fixed opinion upon the subjects to be investigated. The Commission is to hold office for two years.

The Weber-Parkes Prize.—The second award of the Weber-Parkes prize and medals by the Royal College of Physicians of London will be made in 1900. These awards are conferred triennially to the writers of the best essays upon some subject connected with the etiology, prevention, pathology, or treatment of tuberculosis, with special reference to pulmonary consumption in man. The subject selected by the adjudicators for the next award is: "The Etiology of Human Tuberculosis and the Assistance Which a Knowledge of the Etiology May Render to the Task of Prevention." The essay must be based on the original work and observations (experimental or other) of the author and must include a detailed exposition of the methods employed and their mode of application. The value of the prize is 150 guineas (over $760), and a silver medal is conferred as an enduring souvenir. A similar silver medal, distinguished as the second medal, will be awarded to the essayist who comes second in order of merit. The award will be made on some day previous to October 16th (St. Luke's Day) 1900.

The Greatest Achievement of 1898 —Perhaps the greatest advance in the medical world in the year 1898 was the very wide attention which was given to the prevention of tuberculosis. The medical papers were filled with articles upon the best method of treating the sick so that the well might be protected from contracting the disease. Not an association of medical men met without a discussion of this question in one form or another. Boards of health and legislative bodies passed measures and discussed plans for the special treatment of consumptives. In short, the public is awakening to the fact that it has been harboring in its midst, without thought, a parasite a hundred times more deadly to it than leprosy or cholera. Such an awakening may not be heralded with all the applause which follows the discovery of a new microbe or the X-ray, but the results which will follow will be of vastly greater importance to the community. In England, for instance, there was founded the "National Association for the Prevention of Consumption and Other Forms of Tuberculosis" with the Prince of Wales as its patron, and gifts amounting to £20,000 in its treasury.

CORRESPONDENCE.

THE HEALTH OF THE HAWAIIAN ISLANDS.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—It is conceded that inasmuch as this group of islands has become part of our national domain it is more than ever necessary that we know the truth concerning leprosy and diseases generally prevailing there; but no one with fair information on the subject can agree with the *Medical Record* (October 15, 1898) that "for many years the Sandwich Islands have been a hot-bed of disease, and until drastic remedial measures have been put into force are likely to remain so," etc. Dr. Morrow, a visitor in Hawaii, is quoted as saying: "The demographic effects of introduced disease in a virgin soil can nowhere be better studied, and they exhibit facts of most remarkable interest." The same writer then tells us of the ravages of measles and smallpox with the introduction of syphilis by Captain Cook's expedition.

It is the purpose of this paper to take the other side of the question, and in support of the views advanced I would cite as authority the Board of Health of Hawaii, the reports of the Government physicians (English and American), and those of the medical officers of the United States Navy, who have rendered statistical reports of disease from Honolulu for at least thirty year past; furthermore, the writer can claim a large and continual personal experience in the islands.

It has been said that the Commonwealth of Massachusetts is the best government in the world; in most respects, the Republican Government in Hawaii could challenge comparison. The Health Department of the Government was most ably conducted; the Board of Health represented the best intelligence of the community combining, as in Massachusetts, all the various interests in caring for the public health. Its earnestness, ability, and success is beyond cavil; utterly devoid of politics, its work was unhindered and to-day the money expended, the humanity shown by the Republic of Hawaii to the unfortunate natives will ever remain its greatest monument.

While the considerations here presented apply to Hawaii generally, in the matter of sanitation we will confine ourselves to Honolulu. The elevated portions and suburbs of Honolulu are, as a rule, in good sanitary condition; in the low and crowded old town, with its mixed population, there are undoubtedly bad conditions; the midden is in use, and there is no good system of sewer-

age; sewage is collected and carried to deep water. Another defect is the crowded harbor and the flats which surround it, which become covered with sewage. Furthermore, Honolulu needs more water. These conditions have all been recognized, a complete system of sewerage has been contracted for, and arrangements for storing and filtering water coming from the valleys back of the town has also been provided for. Indeed, when one compares these conditions with those prevailing in the United States in cities of similar population, Honolulu as to care and expenditure is infinitely superior.

Under the Board of Health are twenty-four Government physicians, who watch disease and disease-producing conditions, as is done in no rural district in the United States. This Board deals with details of public health in a far more careful manner than in large cities. The quarantine is as perfect as yet devised. The eradication of cholera in 1895 reflects the greatest credit on the Board of Health. The following is the death-rate in Honolulu during the nine months prior to December 31, 1894:

		Estimated Population.
All nationalities	21.14.	28,000.
Hawaiians	31.19.	10,500.
Asiatics	15.89.	9,506.
Portuguese	14.21.	3,800.
All others	16.66.	16,000.

In analyzing these figures, it will be seen that the general mortality is small despite the high native rate and that of the Asiatics, and that the European rate is about that of Newport, R. I.

Consumption, at one time unknown, is gaining daily. After perspiring freely, and then seeking to cool off in a fresh trade wind, all readily catch cold; almost all visitors have an introductory coryza, but among the natives this dread malady finds its greatest number of victims. Expressed briefly, it is mainly due to wearing foreign dress. Clothed in palm and pandanus leaf, the skin is in equable condition as to heat and moisture; in woolens and cottons the native takes cold, and succumbs more readily than the white. Beck claims that this is true in all the islands of the Pacific, when the missionaries insist on changing the primitive dress.

Fevers are common, very much like those of the Southern United States. Eight fatal cases of typhoid occurred in Honolulu in 1895. Tropical fevers are still much unstudied, both clinically and bacteriologically. The nomenclature is geographical; thus there is Syrian, Walchren, jungle fever, etc. Cadge calls jungle fever a remittent, but those who have had experience well know the difficulty of classification. The conclusion that all fevers are paludal is inaccurate; a wetting, undue solar exposure, too free use of alcohol and of food suited to cold climates play an important part. Most tropical fevers are continued; as a rule they are ushered in with diarrhea. Headache is unusually severe; many show no improvement under quinin; the microscope fails to find the plasmodium in many cases otherwise showing malarial symptoms. The writer has never seen an intermittent fever in the tropics. The term periodical is much less applicable than in the United States. Diarrhea is so early and persistent it may be considered the essential element in many cases, the fever being a septic symptom.

Diseases of the digestive tract, diarrhea and dysentery, prevail just as they do in the Southern States. Pneumonia and bronchial troubles are on the increase. Diphtheria is a *questio vexata*. Dr. Alvarez reports finding the Klebs-Loeffler bacillus in cases submitted to him. Rheumatism is very unusual. The exanthematous fevers are very rare, with the exception of measles. Scarlatina is not reported. The amount of venereal disease is greatly exaggerated (*vide* reports of Bureau of Medicine and Surgery, Navy Department). The cruiser "Baltimore" suffered less while at Honolulu in nine months than she did after one week at Hongkong from this class of disease. The following are the reports of venereal cases for Honolulu for 1896 and 1897.

1896.		1897.	
Number on register	116	Number on register	128
Hawaiians	32	Hawaiians	25
Half-castes	7	Half-castes	5
Japanese	74	Japanese	96
German	1	German	1
French	1	French	1
S. S. Island	1		

The question of greatest importance concerning leprosy seems to be, Is the disease being crushed out? Will our new political relations bring us great danger in this regard? The demographic statement of Dr. Morrow has been widened into a demographic law, and that is, "The black races perish and disappear in contact with the white." This is no new fact; our own country has worked the problem with the Indians; it is in process all over the Pacific under conditions as inevitable as that of coral formation. A race of weak vitality, like the indolent Hawaiians, has no power to resist the ills of Pandora's box let loose upon them.

The statement that leprosy is on the increase is borne out, if one relies only on a superficial investigation. Between the years 1866 and 1895 the number of inmates of the leprosy-station at Molokai increased from 165 to 1087. The explanation is simple. Under the Republic segregation was vigorously pursued, and a great rounding up resulted in having practically all the subjects at Molokai or at the observation-station at Kalihi. The opposition to segregation has in a great measure ceased; instead of secreting relatives and living secluded in the mountains, the natives now see the justice and even comfort at Molokai. Incipient subjects are carried there now, whereas under the monarchy only confirmed cases of long standing were taken in; thus the mortality has decreased, and the number steadily increased.

Of the twenty-four Government physicians, the majority state there is no leprosy in the district or note a few cases; one or two note no change; some admit that many cases brought to them are syphilitic. Cases found now are of a mild type, rarely tubercular, or with the facies leontine. As is well known, the disease rarely attacks the white population. During the biennial period ending December 1, 1897, there were 6 cases in the white race, *viz.*, Portuguese, 2; German, 2; American, 1; English, 1. Alluding to the venereal origin suggested by Morrow, is it not singular that in all the years the United States has kept a large naval force at Honolulu not a

seaman or marine has ever been reported as being leprous? As to the *Record's* idea of sending observers and scientific investigators to Hawaii, the fact remains that men of high scientific ability resident in Honolulu have for years studied this disease clinically and bacteriologically. Dr. Alvarez leads in this work in Hawaii, and was a recognized leader at the Berlin conference, being placed second on the general committee, and his method of diagnosis is recognized as the best. Our Government had an official representative at Honolulu last year, and he will readily admit his inability to do more than has been or is being done.

In view of our large commerce with the islands in the past without the introduction of Hawaiian leprosy into California (though it does come in from China), in view of the disappearance of the native race, which has fostered the disease, with a stringent quarantine against Asiatics, I submit that leprosy loses most of its significance as a cause of future trouble to the United States. If ordinary care as to health matters be exercised, and I claim that more than this is done, that most magnificent of ventilators, the trade wind will keep Hawaii salubrious and sweep away deleterious agencies that arise there. These winds blow from the mountains over the town to the sea. During the short period of reversal, or when the southwest wind occurs, all feel the change, and sickness is greater. The natives call this the *kona* or sick-wind, but its duration is short. Assuredly it cannot be assumed that the sickness among the United States troops at Honolulu is climatic; it is the same old story of large bodies of men congregated, the authorities among whom are either ignorant or oblivious of lessons learned long ago in camp sanitation and the health of armies.

JOHN C. WISE, M.D.,
Medical Inspector, U. S. N.

U. S. S. "BALTIMORE,"
CAVITÉ, PHILIPPINE ISLANDS,
January 20, 1899.

COMPARATIVE MORTALITY FROM TYPHOID FEVER IN PHILADELPHIA.

To the Editor of the MEDICAL NEWS.

DEAR SIR: — Philadelphians are so accustomed to the misrepresentations of the lay press of New York where their city is concerned that its deliverances have ceased to attract their attention, but expecting better things from the medical press on account of its pretention to science which exacts strict impartiality, I confess to surprise at the impassioned philippic against our city in your issue of February 18th.

While I do not intend to attempt a defense of the presence of typhoid fever in Philadelphia I wish to show by statistics that the deaths from that disease here are not so excessive when compared with those of some other cities which hold their heads very high hygienically as to justify the dreadful penalty that "no Philadelphian should presume to raise his voice in any question of general interest and importance."

Very little value is to be attached to inferences drawn from the record of the deaths of a single week, the real worth of statistics being in direct proportion to the number of facts collated; I have, therefore, in what is to follow made use of the annual death-rates for six years in different cities as compiled by Dr. John S. Billings in his reports of vital statistics for the last United States census. These reports were of course made up from those prepared by the registration officials of the several cities.

According to this authority in the six-years-period ending May 31, 1890, the following was the average annual death-rate per 100,000 persons living from the below-named diseases in four cities (Vit. stat. New York and Brooklyn, p. 33; vit. stat. Philadelphia and Boston, p. 26):

	NEW YORK.	BROOKLYN.	PHILA.	BOSTON.
Typhoid fever.....	24.37	23.13	69.35	39.02
Malarial fever.....	24.62	32.62	7.21	1.75
Diarrheal diseases....	316.85	282.58	70.31	102.54

Reading these figures literally it would appear that the deaths from typhoid fever in Philadelphia were proportionately nearly three times those in New York and Brooklyn, and not quite twice those in Boston. But what is the meaning of the excessive mortality from malarial fever in New York and Brooklyn as compared with that in Philadelphia and Boston? Is it possible that the first two cities, although situated farther north than Philadelphia, are more exposed to the malarial poison, or have the physicians in those localities not yet learned the antimalarial virtues of cinchona bark, notwithstanding that this knowledge has been the common property of the profession for more than two hundred years? Neither of these reasons is, of course, to be entertained and it seems to me most probable that nearly all the deaths reported as from malarial fever should be classed as from typhoid fever, or at least they would be so designated in Philadelphia. I know that formerly in the death reports of New York City "typhomalarial fever" was recognized as a special cause of death at a time when all deaths reported to the health authorities at Philadelphia from this cause were classed in that city under "typhoid fever."

Assuming that I am correct, if the deaths from typhoid and malarial fever be added together, the following figures will result:

	NEW YORK.	BROOKLYN.	PHILA.	BOSTON.
Typhoid and Malarial fever.....	48.99	55.75	76.56	40.77

This is quite a large mortality in each of the four cities from a malady which in your opinion is "an easily preventable disease."

To tax your patience a little longer, Mr. Editor, if we now consider the statistics which you quote in holy horror from your Philadelphia correspondent relating to the ravages of typhoid fever in Philadelphia, and which figures I believe to be correct, it would appear that in the last ten years there has been an average number of 500 deaths from the disease for each year. Taking the average population of Philadelphia during those years at 1,000,000, which is certainly below the mark since the population is now estimated at about 1,300,000, the typhoid death-rate during those years would have been 50 to the 100,000 persons living, or about the same as that in the six-years period quoted above for New York

from typhoid and malarial fever combined; less than that of Brooklyn from the same, and about twenty per cent. in excess of that of Boston. And yet I do not remember any such frantic appeals to those cities on account of such mortality or threats of putting them out of the pale of civilization for not correcting it.

Again dealing with the figures of Dr. Billings and of your correspondent I call your serious attention to the fact that the typhoid death-rate in Philadelphia for the six years ending May 31, 1890, was 69.35, while for the last ten years it was but 50, showing a decrease of nearly thirty per cent. Unless Philadelphia has had a wonderful streak of good luck in these years she appears to have been doing enough to escape at least your charge of "crime" in her negligence.

I have quoted the death rates from "diarrheal diseases" in the several cities—astounding in their excess in New York and Brooklyn over those in Philadelphia and Boston—simply as a hint that some typhoid cases may have unobserved crept under this caption in the death-lists of the first two cities. R. A. C.

PHILADELPHIA, February 23, 1899.

We can easily understand how the physician who sends us the above subscribes only his initials for publication. His letter boiled down and in plain English would read something like this: "Our death-rate from typhoid in Philadelphia in not so very bad. It is ever so much worse than that of any other large city in the civilized world we know, but that is our business not any one else's. Let us alone." Are there any physicians in Philadelphia who would care to sign that statement as it stands?

Then the awful attempt at defense! "Very little value," he says, "is to be attached to inferences drawn from the record of the deaths of a single week." Very little value to be attached to the fact that among a million of people 40 die in a week from typhoid, and over 400 are stricken with the disease? Human life must be of very little value in Philadelphia. Though these are the figures for a single week is there any pretense that they are much above the average for certain seasons of the year? Nearly as many deaths occurred in the week before that for which these statistics were quoted, practically as many (38) occurred the very week our correspondent wrote his letter.

Then comes the manipulation of statistics, and the statistics for what years? For the six years preceding 1890! Do they know in Philadelphia that the rest of the country claims to be in the year of grace 1899? We have heard that a P. R. R. brakeman, when asked by a traveling Englishman who had been told that he would have to put his watch back at each of our large cities on his way West, what was the difference in time between New York and Philadelphia, promptly replied, twenty years. We have thought that this was an impious exaggeration, or at least that the medical fraternity in what used to be the medical center of the United States did not share in the general backwardness, but here is a medical man who defends the present condition of Philadelphia in the matter of typhoid by statistics gathered more than fifteen years ago. We spoke of the last ten years, and we said the last of these ten years was the worst of them all, and we see no reason to change that expression.

The next point in the defense is a most curious one. It presumes that there is no malaria in the North at all, and adds to that the assumption that the medical men of other cities than Philadelphia (this is typically characteristic of a certain class of Philadelphians) were in the habit of mistakenly diagnosing about one-half of their typhoid cases as malaria. He wipes out Philadelphia's mortality from malaria by adding it to the typhoid column in order to be able to do the same thing for New York and Brooklyn. Does he not know perhaps that Philadelphia has some undoubted malaria in the low-lying districts near the Schuylkill, and that any such manipulation of her statistics is unwarranted? He must know absolutely nothing of the state of affairs around Brooklyn and New York or he would at least allow us the privilege of having *some* malaria. Believe us, dear, good sir, the medical profession are not all fools outside of Philadelphia.

Need we discuss these puerile manipulations of statistics further? We ask every Philadelphia physician to read once more our correspondent's defense of the present state of affairs with regard to typhoid in Philadelphia, and then to realize what the position is which he himself occupies. Let it not be said at least that the medical profession has stood idly by and seen this awful sacrifice consummated year after year unmoved and without loud and frequent protests. There may be a few old fogies, like our dear, good, doubtless well-meaning correspondent, in the medical profession in Philadelphia, men of other times who do not realize that typhoid has become an easily preventable disease. To those men no appeal can hope to penetrate; they are enwrapped in an armor of conservatism to which harveyized steel is as nothing in its power of resisting penetration. But Philadelphia's fair name is a precious heritage to the younger generation of Philadelphia physicians. Let it be no longer smirched as it has been. Unite every effort to make the city's sanitary condition a model to the world—not the awful example that it is. Philadelphia is situated not unlike Berlin as regards the room that it has in which to spread out. Read the wonderful municipal lessons of the model city that the Prussians have made out of their capital while it was growing as almost no other city in the world has ever grown.

MEDICAL MATTERS IN CHICAGO.

[From Our Special Correspondent.]

REPORT OF ORIGINAL WORK ON THE BACILLUS OF INFLUENZA.

CHICAGO, March 6, 1899.

DR. F. E. WYNEKOOP, First Assistant Bacteriologist of the Chicago Health Department, has made a preliminary report of original observations in which he has demonstrated that after one has become familiar with the appearance of the Canon-Pfeiffer bacillus under the microscope, it may be readily identified in the sputum and mucus of an influenza patient by direct examination, with-

out awaiting the process of incubation. In the course of examinations made in the laboratory of the health department for suspected cases of diphtheria prior to the appearance of influenza in this city early in December, 1898, a very small bacillus was occasionally found which, in its morphologic characters, corresponded to the organism described by Pfeiffer. With the increase of influenza these organisms were found more frequently, and in order that more extended observation might be made, physicians were asked to send specimens of the sputa and mucus of their influenza patients to the laboratory, and culture outfits were prepared for this purpose. These were put up in the same manner as those used in the diagnosis of diphtheria, except that the blood-serum contained more hemoglobin.

Human blood-serum was at first used, but finding that the serum of beef's blood containing hemoglobin answered every purpose it was finally used altogether since it was readily procured. Upon this medium cultures were made from the mucous membrane of the tonsils and pharynx and from the bronchial secretions of persons ill with influenza. In many of these cultures the small organism above referred to was found, and in a few instances in a state which was almost pure. From the cultures which were comparatively free from other bacteria transplantations were made to bouillon, a drop of which was immediately transferred to the surface of blood-serum. Three tubes or boxes of serum were usually inoculated from the same drop, and by this means isolated colonies were usually obtained in the second or third tube. The organism isolated in this manner was found in many cases of clinically typical influenza, and in its morphologic, biologic, and pathogenic characters it conforms to the one described in the works on bacteriology. The size and shape are the same and when examined in the sputum so also is the arrangement. Usually the bacilli were found solitary, sometimes in short chains. When a slide was made from a culture, however, they were more often seen in masses. Carbol-fuchsin seem to be the best stain. Other staining solutions were used but were not satisfactory. When an examination was made after a culture had been incubated eight or ten hours the organism stained quite evenly, but after thirty-six- or forty-eight-hours' incubation the characteristic uneven staining was noticed. When blood-serum was used exclusively as a culture-medium growths were obtained that were characteristic and beautiful. The colonies were clear and transparent and in a measure resembled minute drops of water or dew. The life cycle is exceedingly short and uncertain. The culture frequently dies within two days unless transferred to fresh media. In bouillon the development occurred very slowly and in some instances not at all unless a little blood or hemoglobin were added, which caused a more abundant growth. The culture-broth did not become cloudy but remained clear, and the colonies were noticed at the bottom of the tube as irregular whitish-gray masses.

Some observers report finding the bacillus in the blood of influenza cases, but the organism does not seem to occur in the circulation except occasionally. In forty-three blood examinations made by Klein bacterial forms were absent in thirty-seven. In the other cases "the same minute bacillus" was found; in one case the bacilli were present in great numbers; in two they were fairly abundant, and in the other three very few were to be found. In the examinations made in the laboratory in no instance was the bacillus discovered. Cultures were also made from the blood but no growth was obtained. It is thought by some that when the bacilli do occur in the blood they are present as dead and not as living bacteria. If this be true the finding of them cannot be considered as of pathognomonic value or their absence of diagnostic importance.

Dr. Wynekoop's recent experience seems to show that a bacteriologic diagnosis can best be made by means of cultures as described above or by direct examination of the bronchial secretions. The culture method requires from ten- to fifteen-hours' incubation, which time is necessary for the growth of the organism. After it has thus developed, however, a diagnosis can be made with but little difficulty. When direct examinations were made of mucus from the tonsils and pharynx before the use of antiseptics the results were very satisfactory, the bacilli being found in the majority of cases. The latter method has the advantage of giving an earlier diagnosis and seems to be quite as reliable.

After becoming familiar with the bacilli one can in most cases easily recognize them in the secretions. Occasionally specimens will be met with which contain very few organisms, and in these cases some time may be required in order to make a certain diagnosis. In many specimens of bronchial secretions examined in the laboratory the influenza bacilli were found at once and the diagnosis made without delay. This is not difficult when carbol-fuchsin is used as a staining agent as it colors the influenza bacillus in a very decided manner.

Certain of the pneumonia organisms closely resemble the influenza bacilli. The lanceolate bacillus, for example, is quite similar in microscopic appearances. Upon close observation, however, it is seen to be a little longer and with ends which are more pointed. It is more easily stained than the influenza bacillus, and its ends do not become so deeply colored. The colonies on blood-serum are not so clear and transparent, but have a tendency to become somewhat opaque.

In several instances the bacillus of diphtheria and the bacillus of influenza were found at the same time in the throats of patients, and the clinical symptoms usually supported the bacteriologic findings. This was true also with several other disorders. It would seem that a bacteriologic diagnosis in influenza is of special advantage in detecting this disease when complicating other diseases. The bacilli were not only found present in cases of diphtheria but also in cases of scarlet fever, measles, and pneumonia. In all of these conditions it was noticed that there were clinical manifestations which were difficult to interpret until the microscopic examination was made.

In the diagnosis of suspected diphtheria during the past two months some interesting observations were made relative to obscure clinical symptoms of influenza. In cases which appeared at the onset to be diphtheria the presence

of the Canon-Pfeiffer bacillus was demonstrated, and the subsequent course of the disease confirmed the microscopic diagnosis of influenza. In many of these cases the throat symptoms were so marked—redness and swelling of the tonsils and a well-developed membrane—that a physician would not hesitate to pronounce the case diphtheria, yet influenza bacilli were often found in these cases in a condition almost pure. Cases with little throat disturbance, but with temperature, bodily aching, and general depression, were on the other hand found to be mild diphtheria, although the clinical symptoms pointed strongly to influenza. In cases apparently of tonsillitis the influenza organism was found, and in other cases, which were clinically severe laryngitis, these bacilli alone were present in the expectorations. In these atypical manifestations of influenza very few of the general symptoms of the disorder were noticed, and the diagnosis, subsequently confirmed by the course of the disease, was made solely on the bacteriologic finding.

It has occasionally been observed by physicians that when influenza was present in a household the eyes of some members of the family suddenly became acutely inflamed, accompanied by severe pain, swelling and redness of the conjunctiva, with a profuse discharge of pus, of medium consistency and cheesy appearance. As the disorder differs materially from ordinary acute conjunctivitis, it was suspected that the bacillus of influenza might have something to do with the diseased condition. Cultures were made from the discharges and the suspicion was verified by finding great numbers of the influenza organism. Experiments are now being made upon the eyes of guinea-pigs with pure cultures of the bacilli, and it is hoped soon to be able to report further concerning this additional manifestation of the ubiquity of this malefic microbe.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

AN ANTIVACCINATION BILL BEFORE THE LEGISLATURE—LIPOMA OF THE FILUM TERMINALE—GASTRIC CARCINOMA—THE MEDICO-CHIRURGICAL COLLEGE WINS ITS SUIT—BEQUESTS TO HOSPITALS—BOARD OF HEALTH NOTES—HEALTH STATISTICS.

PHILADELPHIA, March 7, 1899.

THE bill introduced in the State Legislature, repealing the law requiring from all children entering public schools a certificate of vaccination, has received much attention from the press, the laity and the profession and equal condemnation from all concerned. The executive committee of the Public Education Association has characterized the bill as a vicious measure and has asked the House and Senate committees having the bill in charge to postpone action until "the friends of public health can be heard." The College of Physicians at a meeting March 1st, adopted resolutions protesting against and condemning the bill, stating that such a measure "is unwise, dangerous, and a step backward in sanitary matters, and will expose the community to increasing danger of an epidemic of smallpox and to consequent incalculable injury to health and immense loss of commerce of any community in which such an epidemic may occur."

C. Oscar Beasley, representing the so-called American Antivaccination Society, gave the press a statement as to the position of the society on the matter and after stating that there is an alarming amount of ignorance among physicians on the statistics of the efficacy of vaccination and that many of the most eminent physicians in the world oppose vaccination, which fact is studiously concealed by its advocates, he gave some facts and statistics which would make Munchausen a sorry competitor of the gentleman. That such action can be taken by any mentally well-balanced individual seems incredible and at a public hearing to be held March 14th, for evidence pro and con, it is to be hoped that the matter will be settled once and for all time by digging a grave both wide and deep for the bill and its scatter-brain advocates.

At a meeting of the Pathological Society, held February 24th, Dr. William G. Spiller presented a case of "Lipoma of the Filum Terminale." The specimen, interesting because of the rarity of such tumors, was accidentally discovered in a case of tabes dorsalis and this was true also of the only other similar case on record. The growth was probably due to misplaced tissue in the fetus. Another interesting case presented at the same meeting was a "Carcinoma of the Stomach" which Dr. W. E. Hughes exhibited. Interesting facts were the patient's previous symptoms of gastric ulcer, recovery, and ten years later the occurrence of carcinoma with the presence, until four months of death, of hydrochloric acid in the gastric juice.

The Supreme Court of Pennsylvania has affirmed the decree of the Court of Common Pleas in granting the petition of the Medico Chirurgical College asking for authority to confer degrees in dental surgery, from which the Philadelphia Dental College took an appeal. The opinion, which was delivered by Judge Dean, holds that the word "medicine" in its common signification, includes all learning having for its object the care of the health and the cure of the ills of the human body, and, inasmuch as the Medico-Chirurgical College has authority to confer degrees in medicine, it unquestionably has the right to impart instruction in dentistry and to confer degrees in that branch.

Hannah Price Brookfield, who died last month, in her will admitted to probate last week, bequeathed $10,000 to the Jefferson Medical College Hospital for free beds in memory of Dr. J. M. Brookfield and his wife Sarah Price Brookfield. To the House of Mercy for Consumptives, at Chestnut Hill, $2000 was left and the remainder of the estate is to be divided among a large number of homes, etc.

Dr. Augustus A. Eshner has severed his connection with the *Philadelphia Medical Journal* of which he was assistant editor.

Dr. Percival E. Loder is temporarily delivering the lectures on anatomy at the Pennsylvania College of Dental Surgery in place of Dr. J. Ewing Mears. Dr. Mears, who has handed in his resignation to the board of trustees, felt that the student body had not treated him with due

respect and hence took this action. Should Dr. Mears' resignation be accepted it is possible that Dr. Loder, who is demonstrator of anatomy, will be elected to the chair of anatomy.

The Board of Health has recently discussed the question of compelling proprietors of lying-in institutions to report to the board within five days the date, place of birth, mother's name and address; name, sex, and color of the child and, in case of adoption, the name of the person desirous of adopting a child, no child being allowed to be adopted until the board is satisfied that the child is to be adopted by responsible people. The institutions were represented by an attorney who contended that it put unfortunate women to unnecessary shame. After some discussion by Colonel J. Lewis Good and Dr. Charlotte Abbey the matter was referred to the Sanitary Committee for further consideration.

Mayor Ashbridge evidently wishes the power of appointing his own health officer for a bill has been introduced into the State Legislature abolishing the present Board of Health and providing for the establishment of a Bureau of Health as a subdivision of the Department of Public Safety. Should the bill be carried the mayor will, of course, have control of the appointment of the chief of the bureau and of the subordinate officers composing it.

Doubtless the threadbare tale of more typhoid-fever cases is growing monotonous to every one and just as we grow accustomed to any excesses when repeated again and again so *443 new cases, an increase of 22 over last week*, seems a trifle. Chief Medical Inspector, Dr. Taylor, said he could not remember any week in which there had been so many deaths from typhoid as there were last week, and this record for number of cases and deaths has never been equaled in the records of the city. At the rate of the average number of cases for the past month or so the number of cases for the year will be somewhere near 20,000 and the deaths probably 2000. Comment is useless.

The total number of deaths occurring in Philadelphia during the week ending March 4th, as reported at the health office, was 566, of which number 129 occurred among children under five years of age. The total number of new cases of contagious diseases was 523, reported as follows: Diphtheria 56 cases with 16 deaths; scarlet fever 24 cases with 2 deaths; typhoid fever 443 cases with 49 deaths.

OUR LONDON LETTER.

[From Our Special Correspondent.]

VACCINATION AND ANTIVACCINATION AGAIN—A CURIOUS CASE OF LEAD POISONING—GOOD ADVICE TO MRS. 'ARRY 'AWKINS ABOUT THE CARE OF THE LITTLE 'AWKINSES—THE HARDENING EFFECTS OF FORMALIN—THE NEW INEBRIATES' ACT AND THE POSITION OF THE GOVERNMENT.

LONDON, February 26, 1899.

GREAT disappointment is felt in medical circles that no mention of revaccination was made in the Queen's Speech, the equivalent of our President's Message, at the opening of Parliament. Of course this does not necessarily mean its omission from the Government program, but it is usually expected that all important measures in view will be at least alluded to in the Speech. As was intimated in my last letter, the consent of Lord Lister and other influential medical men to the "experiment" bill containing the conscience clause was only gained by a definite promise of adequate legislation in regard to revaccination at the next session of Parliament, a promise which was publicly repeated in the House of Lords by Lord Harris on behalf of the Government. By making revaccination compulsory, except in cases of "conscience," between the ages of twelve and fourteen, it is hoped by forcing the question upon the attention of recalcitrant parents a second time to double the chances of overcoming their resistance, and thus perhaps an even greater percentage of the population would get vaccinated first and last by two non-compulsory insistences than by the old single compulsory effort.

Much as the profession distrusts the sincerity and utterly condemn the rationality of the antivaccination propaganda, yet it really begins to look as if there were some reason after all in the hope of some perhaps too optimistic and tolerant spirits among us, that it would begin to collapse of its own accord if deprived of the arguments based upon "brutal tyranny," "martyrs for the right," etc. A most curious state of affairs has just developed at Oldham, which enjoyed the bad eminence of no less than 27,000 exemptions since the Act went into effect. These to become valid must be filed with the health-officer within a certain period and this has now expired without a considerable per cent. having been so filed. Not only this, but the vaccinations reported to him in January alone considerably exceed the number for *the entire year* previously. During the past month 200 children were vaccinated in Oldham, while during the whole of 1897 there were 183 only, and in January, 1898, only 10. In Burnley, where the appalling number of some 7000 exemptions had been granted, 2000 have never been called for by the applicants and still lie in the clerk's office. It would really seem as if the sturdy Briton suddenly finding to his surprise that if he wanted to make a fool of himself the law was not going to forcibly prevent him, had gone quietly home and for the first time began to think over the matter.

A curious case of death from lead-poisoning has just been reported. A girl employed in a factory where lead-glaze is used died suddenly with saturnine symptoms. At the inquest it was shown that the death was in no way the fault of the manufacturers as the deceased had been in the habit of surreptitiously eating cake and buns during work-hours, in spite of the company's stringent rules against any eating on the premises. Naturally, of course, under such conditions, the cake was eaten with unwiped fingers and a rapidly fatal poisoning was the result.

An excellent step has just been taken by Dr. George Millson, medical officer of health for Newington, one of the most crowded districts in London. This is the issuing by the vestry, or local municipal council, of a circular, entitled "General Directions—How to Feed and Bring up Infants." The district is frightfully overcrowded, early marriages are the rule, especially among the costers,

and the intelligence of the girl-mothers may be judged from the character of some of the "directions" found necessary. "Do not give a baby cheese, beer or tea," it might be profitably added "gin"; "Infants must be kept warm" and should be "washed all over with soap and warm water at least once a day." Dr. Millson is anxious to organize a scheme for teaching the people the elements of nursing and hygiene through a staff of trained nurses who should be sent to every house where serious illness occurred, not so much to take charge of the cases, but to teach the family what to do for them and how to do it. It would be an admirable and most beneficent idea.

Another abortionist has been convicted of "constructive murder." This time it is a woman, Jane or "Nurse" White, for causing the death of Alice Birmingham, in November last, by an illegal operation. Although women are not hanged for such a crime and the jury brought in a strong recommendation for mercy, yet the whole ghastly farce of the black-cap and "to be hanged by the neck till you are dead" was solemnly gone through with. Next week we shall hear the sentence has been commuted to three- or four-years' imprisonment.

An ingenious and most successful application of the hardening effects of formalin has just been reported in the *British Medical Journal* by Dr. William Mitchell. An inoperable fungating sarcoma of the face came under his care and as the hemorrhage was becoming serious in spite of all ordinary styptics, he applied pledgets of cotton soaked in a strong solution of formalin. The effect was not only to promptly check the hemorrhage but to "mummify" the whole surface-layers of the growth to a depth of nearly half an inch. This tissue being perfectly anesthetic was curetted and cut away and the application repeated until the entire growth was removed, layer by layer, without a dram of hemorrhage, in the course of a few weeks. As the formalin seemed to penetrate the growth more deeply and completely than it did the surrounding tissues, the borders of the former were mapped out both to sight and touch with great distinctness after each application and the removal could be made both complete and exact. The only drawbacks to the method were the pain which, though quite severe both during and for some hours after each application, was readily borne with the assistance of small doses of nepenthe, and the edema produced in the surrounding tissues. Any one who has seen the striking effect of formalin in congealing dead tissues and its rapid "tanning" effects upon his own fingers will be inclined to believe that we may find in it a most valuable means of holding in check or removing inoperable neoplasms according to Dr. Mitchell's ingenious suggestion.

In a few weeks more the new Inebriates' Act will come into practical operation but it is a disappointment to know that the Government has decided not to provide funds for the building of reformatories until they find by actual experience about how numerous the convictions under it are likely to be. However, luckily, several private institutions of this class have signified their intention of applying for a license under the Act and others are to be provided by various philanthropic associations, so that those convicted will not be branded with the prison-stamp by being cared for in certain departments of existing penal institutions. The new law is such a marked and rational departure from previous principles of legislation that its results will be watched with great interest by both medical men and penologists. We of New York may take a special pride in it, as it is in principle, practically the application to inebriety of the Elmira or Brockway system of indeterminate confinement, the length of which is based upon progress made toward reform. After a certain number of convictions for drunkenness, the inebriate will be committed to one of a series of carefully regulated reformatory institutions under the general supervision of medical inspector Dr. R. W. Braithwaite. The Act is a triumph of the medical view of inebriety, that, however we may differ as to its voluntary and controllable character in its beginning, after a certain stage it becomes a disease and its victim should be treated as a patient, not a criminal.

The Parliamentary Bills Committee of the British Medical Association has just held its most important session before the opening of Parliament. Its attention was principally occupied with the final revision of the Midwives' bill which is to be presented this session. The subcommittee upon this subject reported that the Midwives' Institute had also prepared a bill and an attempt had been made to harmonize the two documents. The principal points of disagreement seem, however, to be important if not vital ones. The Midwives' bill defines a midwife as "any woman who for gain undertakes to attend women in childbirth" while the medical committee insists upon the addition of the important qualifying clause "under medical control and supervision," thus limiting the powers of the midwife very properly but to an extent hardly likely to be relished or accepted unless inevitable by the good ladies themselves. Make them mere subordinates of the doctor and they will soon be supplanted by the trained nurse and the advanced student-assistant, a consummation devoutly to be wished. The other point relates to the composition of the central controlling Midwives' Board which is to examine candidates, issue and revoke licenses and supervise practice. This the Midwives' Institute bill wishes to consist of six members, four of whom shall be physicians and one of these to be appointed by the institute itself. The medical bill provides that all the members are to be registered medical practitioners appointed by the Medical Council, so as to represent the various sections of the country.

The Subcommittee on Revaccination also met and agreed to prepare and push a bill requiring revaccination to be made obligatory at the age of twelve years.

To Relieve Chilblains and Habitual Cold Feet.—JONES of St. Bartholomew's makes use of hydrofaradic baths at bedtime. Hands or feet, as the case may be, are placed on flat electrodes in a vessel containing tepid water, and as intense a current as can be borne is turned on for ten or fifteen minutes. The inflammatory symptoms are subdued, the treatment being repeated as indicated. Permanent cures of cold feet are reported after ten treatments.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

PRECAUTIONS AGAINST INTRODUCTION OF THE PLAGUE INTO EUROPE—APPENDICITIS AMONG SOLDIERS—COMBINATION OF ETHER AND MORPHIN FOR PATIENTS WITH WEAK HEARTS—THE TIME TO OPERATE IN APPENDICITIS—THE GOOD EFFECT OF BICYCLE RIDING UPON INGUINAL HERNIA—UNSUCCESSFUL SUTURE OF THE RIGHT VENTRICLE—LIGATURE OF THE UTERINE ARTERIES FOR CARCINOMA OF THE UTERUS—THE DISCUSSION OF THE SURGICAL SOCIETY UPON THE OPERATIVE TREATMENT OF APPENDICITIS — TUBERCULOSIS OF THE TONSIL AND SOFT PALATE—PRIMARY SYPHILITIC LESIONS OF BOTH BREASTS—PURULENT FOCI IN THE LUNGS, RECOGNIZED WITH DIFFICULTY.

AT the Academy of Medicine, January 17th, PROUST read a paper upon the defenses of Europe against the plague. Sparsely inhabited and desert-regions afford great protection, but communication with infected districts in Asia, by railroads and steamship lines constantly exposes the countries of Europe to a visitation of the disease. To prevent this it is not necessary that any more councils be held; it is only needful that the rules laid down by the conventions of Vienna, Dresden, and Paris be carried out. Unfortunately, the rules regarding the quarantine of vessels coming from infected ports and for the disinfection of those which have carried persons ill with the plague are not always followed with the desired thoroughness. In some instances captains of ships, and even medical officers have falsified their reports in order to prevent delay.

At the session of January 24th, CHAUVEL reported the results of the treatment of 171 cases of appendicitis occurring in the French army. About one-half of the patients were subjected to operation. The mortality in this group was slightly higher than in the group of those treated medically. This was due party to the fact that for the most part only the graver cases were brought to the operating-table, and partly to the length of operative manipulations. Operation is always indicated if suppuration is present or seems likely to arise, while the cases without suppuration may safely be placed under a rational medical therapy.

FERRAND suggested that the injection of half a syringeful of ether at the same moment that morphin is administered to weak persons. The ether is well borne, does not in any way interfere with the anesthetic effect of the morphin and it reduces the danger of syncope and embarrassment of the respiration.

At the session of February 3d, DIEULAFOY said that he had operated in 61 cases of appendicitis in the last three years, with 7 fatalities, that is, a mortality of 11.4 per cent. If these figures were high it was not on account of the difficulties of operation, but because the patients had been kept upon medical treatment too long before the surgeon was consulted. This was a most reprehensible practice, since medical treatment gives a mortality of at least 30 per cent. Surgical treatment is the only rational one, provided that operation is performed at the earliest possible moment after the beginning of the attack.

RECLUS endorsed these opinions and advocated immediate operation in all cases in which the progress toward recovery is not absolutely evident, and unless the patient is so situated that the symptoms can be constantly observed and operation performed at any time. It is well to remember that one can never predict the moment in appendicitis upon which its outcome depends.

LUCAS-CHAMPIONNIERE reported a case of cure of an inguinal hernia by the continued use of the bicycle. He considered the repose so often ordered to those who have herniæ very injurious. It is evident that those engaged in an active occupation do not suffer nearly so much from their ruptures as those who are able to live without exercise. A patient should be encouraged to engage in sports of every kind, and of all of them bicycle riding is the very best. When a man is mounted on a bicycle the hernia has no tendency to come down, but remains in the abdominal cavity, and tends to become fixed in that position, and so a cure is effected. Besides its local good effects, riding improves the general health and reduces the flesh of the patient. It should be so arranged as to produce the greatest benefit. The saddle should be low and broad, and set well behind the pedals, and the amount of exercise should be slight at first, but gradually increased as to grades and speed. Patients who have had a radical operation for hernia may safely be trusted to begin their rides two weeks after the operation.

At the Anatomical Society, January 13th, BUFNOIR showed the heart of a man who had been shot with a 22-caliber revolver through the sixth left intercostal space. Misled by the direction of the ball, the surgeon opened the abdominal cavity, but finding no blood there he explored the pericardium and found it full of clots. These were removed and a wound in the right ventricle was sutured. The patient died. The autopsy showed a second wound, that of exit, in the posterior wall of the right ventricle.

February 3d, LOEWY presented the pelvic organs of a woman who had died from the pressure of cancerous growths upon the ureter. Five months before her death the uterine arteries had been ligated. Technically, the operation was a perfect success, but it had afforded no relief to the patient. From a study of this and other cases, the speaker had concluded that ligature of the uterine arteries for carcinoma of the uterus is not a good operation. When the tumor is yet small the uterus should be removed; and after the time for that operation has passed relief from bleeding can be much better obtained by cauterization through the cervix than by arterial ligation.

At the Surgical Society, January 18th, SCHWARTZ opened a discussion upon the treatment of appendicitis which occupied the attention of the members during that meeting and the following two. He advocated an expectant treatment in acute attacks, deferring operation unless there were signs of commencing peritonitis. If the symptoms completely disappear, no operation is necessary. If pain and constipation and resistance continue, it is better to operate in the interval.

GUINARD operates in an acute attack if there are signs

of an abscess. He prefers to operate in the interval, and does not think it necessary to await a second attack.

REYNIER said that certain cases are too serious for operation. He mentioned in illustration the case of a diabetic woman who had a thready pulse and fecaloid vomiting. Her condition was such that he felt assured she could not have lived through an operation. Under medical treatment she recovered completely. In three serious cases he had operated at once, and the patients had all died. In four other serious cases he had waited until the conditions improved, and then had operated with success.

LEJARS said that operation is urgently indicated in cases with abscess formation, and in cases with septic symptoms whether due to perforation or to a diffuse peritonitis.

WALTHER preferred to delay operation in grave acute cases, unless there were indications which demanded immediate interference, as he considered the prognosis better the longer one waits.

KIRMISSON did not believe that one can lay down absolute rules for the treatment of acute appendicitis. One ought to operate immediately if suppuration or peritonitis manifests itself. Especially in infectious cases in children should there be no delay.

JALAGUIER said that if there is a tendency to a localization of the process operation is more dangerous than medical treatment, by opium, ice, enemata, and rest. If the process is spreading, injections of serum offer the best chance for recovery.

QUENU expressed himself in favor of immediate operation if the patient is seen in the first day or even the second day after the beginning of the attack. If called to a case in the fifth or sixth day, he was inclined to await firm adhesions, watching the patient with great care meanwhile.

TUFFIER said that the only question in the minds of most men is when to operate. If a case is seen soon after the onset of the symptoms he thought that immediate operation should be performed just as in intestinal perforation or strangulated hernia. In the last two years he had seen nine patients succumb after a delayed operation, all of whom he felt sure might have been saved by an early operation. Other patients have by the merest chance been saved after a late operation, as recently happened when the seven-year-old son of a colleague was operated upon on the seventh day of the trouble, and the perforation was found to be prevented only by the serous covering of the appendix. The sole reason for delay is the desire to be able to operate more safely in the interval, and delay subjects the patient to risks of suppuration and peritonitis which no one can foresee.

BRUN said that he operated immediately only in the presence of septic peritonitis. In all other acute cases he instituted medical treatment. Improvement was generally manifested in a few hours. If there was not a markedly better condition of the patient in twenty-four hours, he operated. The other patients were submitted to resection of the appendix, after the acute symptoms had subsided.

NIMIER had treated eight patients by injections of artificial serum, and all of them recovered, and had had no recurrence.

CHAPUT advocated immediate operation in all acute cases of appendicitis. If the statistics of operation in the interval were made to include the failures of medical treatment of acute cases, the results would be worse than the results of operation in the acute stage. In twenty acute cases without peritonitis he had operated with twenty recoveries.

At the Medical Society of the Hospitals, January 20th, BARBIER mentioned a case of tuberculosis of the tonsil and soft palate, which seemed to come from direct infection as the husband of the patient died of pulmonary tuberculosis one year previously. No lesion of the lung could be made out in the wife, nor was there expectoration. The diagnosis of tuberculosis of the palate was confirmed by bacteriological examination.

DANLOS showed a wet-nurse, aged thirty-six years, with numerous lesions upon both breasts, which were considered to be primary syphilitic chancres. The child she had nursed had died of hereditary syphilis soon after its birth. The woman's own child had also been nursed by her, but it gave no evidence of having contracted syphilis. The chancres had a secreting surface, a slightly sloping border, and were indurated. There was an indolent enlargement of the axillary glands. There were nowhere else on the body evidences of syphilis.

At the session of January 27th, GUINON spoke of the uncertainty of physical examination in purulent collections in the chest. A woman who had fetid purulent expectoration for three months was examined by five skilled physicians who could make out nothing except subcrepitant râles. She grew worse, hemoptysis developed, and the chest was opened and a large pus-cavity was found in the superior lobe. She improved somewhat but died later of repeated hemorrhages.

TUFFIER said that he had performed pneumotomy seventeen times, and that in seven of these cases there had been an error in diagnosis, although the patients had been examined by the most distinguished physicians. Such errors are more likely in connection with the inferior lobe. Radioscopy is a great assistance in such cases.

BECLERE mentioned ten cases in which diagnosis of interlobular purulent foci had been made by radioscopy. The method was however not infallible as shown by the fact that he had mistaken for a case of this character one which was afterward proved to be an aortic aneurism.

SOCIETY PROCEEDINGS.

NEW YORK NEUROLOGICAL SOCIETY.

Regular Meeting, Held Tuesday Evening, February 7, 1899.

THE Secretary, DR. JOSEPH COLLINS, in the Chair.

DR. BAILEY presented two cases of

TRAUMATIC LESIONS OF THE CERVICAL CORD,

the patients now in course of recovery. In the first case the previous history showed nothing of importance except

perhaps a typical musculo-spiral palsy with drop wrist, which came on as the result of injury some years ago, and might perhaps be thought to indicate special sensitiveness to trauma on the part of the nervous system. The present condition dated from a fall into an area which had rendered the patient unconscious. He came to, to find himself in Bellevue Hospital. A deep scalp wound showed that he had landed on his head. There was tingling and paresis on both sides, and in all four extremities, but no sphincter trouble. There was especially pain and stiffness in the neck, and numbness of the right side. Gradually the condition has improved though there still remains some paresis. Sensibility is dulled in the right arm, and there is profound anesthesia of the right leg. The lessened mobility of the neck may be seen from the constrained position in which the head is held. There is also evidence of some sympathetic disturbance. There is a distinct difference in the width of the palpebral fissures, and the right pupil is wider than the left, and does not react to light. The diagnosis of the case would seem to be a crushing of one of the intervertebral disks, with one or more slight hemorrhages into the substance of the cord.

The second case was that of a man on whose head, while he was wedged immovably in an elevator-shaft, the balance-weights of the elevator descended. The result was a superflexion of the head on the breast with consequent traction upon the cord. He was taken unconcious to the New York Hospital, and has gradually recovered. There is a well-defined area of complete anesthesia over the right shoulder and above the clavicle. There is a blunt feeling all over the right side, especially in the right arm. There is no deformity. All the reflexes are heightened in the arm and leg on the left more than on the right. There is left ankle-clonus. Fibrillary twitchings are to be noted in the muscles of the neck. In this case exaggerated flexion of the neck would seem to have caused hemorrhage into the cord. The prognosis of both these cases of hemorrhage into the cord is reasonably good.

In the discussion Dr. Fisher said that he has under observation at present a case not unlike those of Dr. Bailey's only more serious and more lasting. The patient is a boy who was thrown violently forward, and his head forced down upon his chest while playing football. He was unconscious for over an hour and then had complete loss of power and absent sensibility in all his extremities, but no bladder or rectal symptoms. There was some improvement after awhile, but the reflexes continued heightened, and there was wasting of muscles. The anesthesia gave place to numbness. He recovered sufficiently to walk, the right side being more wasted at first. Later on atrophy of the muscles on the left side developed. The support of his head on a jury mast has been followed by more regular improvement. In this case Dr. Fisher has considered that the lesion was a hemorrhage outside of the cord in the membranes, or some slight dislocation causing pressure upon the cord, the recovery with spastic symptoms pointing to this rather than to hemorrhage within the cord itself, though this latter lesion would better explain the atrophy of muscles that has ensued.

Dr. Jacoby suggested that in such cases lumbar puncture might be of the greatest service. If there was blood in the subarachnoid space the cerebrospinal fluid would be tinged, and it would indicate hemorrhage within the cord. In these cases the lumbar puncture would probably also be of therapeutic service, relieving tension within the cord by the evacuation of a certain amount of the fluid and encouraging absorption of what remained before the continued pressure had set up chronic inflammatory changes.

Dr. Bailey in summing up said that intrameningeal spinal hemorrhage is so extremely rarely found in pathological examinations, that one hesitates to diagnose it without absolutely pathognomonic signs. He had never seen it himself in any of the cases he had had the chance to examine post-mortem. Stolper who had made a great many autopsies in cases of injury of the cord doubts entirely the occurrence of intrameningeal spinal hemorrhage alone without other complications. It seems more advisable then to consider that the cord lesion in these doubtful cases of spinal trauma is hemorrhage into the cord itself.

Dr. Lecynzski presented a patient with spastic symptoms of the legs and general loss of tone and feeling though with absence of local atrophy. There were no contractures and no ankylosis though a certain amount of talipes equinus was present. The man had fallen two stories and landed on his buttocks. Immediately after the accident there had been loss of power and sensation. Improvement had taken place until the present spastic condition had been reached. A very interesting phenomenon in the case was that the knee-jerks were absent, yet ankle-clonus present. This is not a very unusual phenomenon, and is not as paradoxical as it seems. It always occurs when the injury is limited as in this case to the lumbar region. The symptoms point to a traumatic condition of the cord, very probably hemorrhages into its substance, between the tenth dorsal and the upper sacral segments. A very interesting phenomenon in the case also is a gluteus clonus that may be brought into play by tapping the buttock. A series of contractions and relaxations of the large muscles here is set up which it is impossible for the patient himself to control. They can only be stopped by flexing the limb on the trunk. The direction which the contractions take show that it is not the gluteus maximus, as might be thought at first, that is mainly concerned in these clonic contractions, but the gluteus medius, whose fibers run the other way.

Dr. Collins demonstrated the brain of a case of sensory aphasia, in which the lesions found post-mortem, especially the atrophy of the first left temporal convolution, confirm the clinical diagnosis and show that the localizing symptoms of the character of the aphasia may give absolutely sure signs for the diagnosis.

Dr. William Hirsch read a paper, entitled

ON THE RELATIONS OF INFANTILE SPINAL PARALYSIS TO SPINAL DISEASES OF LATER LIFE.

He demonstrated microscopic sections of the spinal cord

of a patient whom he had presented to the New York Neurological Society more than two years ago. It had been the general opinion then that the case was one of amyotrophic lateral sclerosis of the spinal cord, or that it was progressive muscular atrophy. The microscopic sections show that it was a speading myelitis. The overgrowth of connective tissue in the cord seems to have begun in the scar of the old poliomyelitis that the patient had had as a child. Especially marked was the proliferation of connective tissue around the blood-vessels and the fan-like processes of connective tissue running out from the anterior, and at times posterior horns, of the cord to the periphery of it. The case seems to be another link in the chain of evidence that is gradually accumulating, and will perhaps eventually discredit, or at least greatly limit, the application of the theory of systemic, or as Dana prefers to call it, neuronic disease of the central nervous system. It seems also to add weight to the opinion of many who connect etiologically acute anterior poliomyelitis of early life with nervous disease which develops later on. In this case what was thought to be amyotrophic lateral sclerosis, or progressive muscular dystrophy, proves to be a progressive myelitis. Dr. Hirsch thinks that all cases of trophic paralysis like this developing years after anterior poliomyelitis are really chronic progressive myelitis.

DR. JACOBY, in discussion, mentioned a case in which cerebral hemorrhage in a child had been followed years afterward by encephalitis, and thought that the original lesion had so reduced resistive vitality of the nerve-centers as to predispose to the pathological condition that developed.

DR. COLLINS thought that Dr. Hirsch's case was no more than a chronic myelitis developing in a patient who had incidentally had acute anterior poliomyelitis years before which had gotten better.

DR. FISHER did not think that the scar of a healed poliomyelitis could be reasonably supposed to contain virulent material which, being set free after decades had passed, might cause myelitis, and thought the processes independent except, perhaps, for the lack of resistive vitality induced by the former nerve-lesion.

DR. HIRSCH, in conclusion, restated his view that myelitic processes are commoner and more important than they are usually thought to be and that the cicatricial remains of anterior poliomyelitis may be their starting-point.

THE PHYSICIAN'S CODE OF ETHICS NOT NARROW OR ANTIQUATED.[1]

ON the occasion of the installation of the officers of the New York County Medical Association, which took place at Mott Memorial Hall, New York City, on the evening of February 20, 1899, the newly elected president, Dr. Frederick Holme Wiggin, in his inaugural address referred at length to certain portions of the National Code of Medical Ethics about which there seemed to be much misapprehension. He began by disavowing the slightest intention of stirring up old strifes, and claimed that he had selected this special topic solely because, in his intercourse, not only with his professional brethren, but with various men of affairs, he had been impressed with the fact that certain very important parts of this subject were very generally misunderstood. For instance, only a very few months ago a high official in the Homeopathic State Medical Society had told him that when the American Medical Association and its affiliated societies were ready to open their doors to those who held different views from the majority as to the action and dosage of drugs, he, for one, would be willing to leave his organization, discard his sectarian title, and apply for membership. This gentleman, like many others, was not aware that years ago the American Medical Association had taken this very position.

In spite of all that had been said since regarding the code of medical ethics, the members of the medical profession in this country had lived under it in reasonable harmony from the organization of the American Medical Association in 1848 until 1882. In the latter year the first note of discord had been struck by the New York State Medical Society which, at its annual meeting in Albany, had adopted a different code. As this was in direct violation of one of the by-laws of the national organization, the judicial council of the latter society, by a unanimous vote, excluded the New York delegation. As a result, the members of the profession residing in this State who still desired representation in the national body were constrained to organize the New York State, and the New York County, Medical Associations. This division of the profession, with its resulting dissensions, was especially unfortunate, because it arose from a misunderstanding, and was, therefore, wholly unnecessary. The American Medical Association had endeavored to clear up any doubt upon the main question at issue, that of consultations with homeopathic practitioners, by adopting in May, 1884, a series of resolutions, making clear the fact that the national code contained no provision in any wise inconsistent with the broadest dictates of humanity and the exercise of the most perfect liberty of individual opinion and practice, and that the true ground for declining professional fellowship with any class of practitioners was not a belief in any particular dogma, but the adoption of sectarian names as trademarks, and the formation of organizations antagonistic to the great mass of the medical profession. This action of the national body, Dr. Wiggin said, had certainly opened the door years ago for the return to the parent organization of the members of the New York State and County Societies, and that the members of the County Society now appreciated this fact, and occupied identically the same position, was evident from the inaugural address, in 1897, of its president, Dr. Arthur M. Jacobus, who, in speaking of certain sectarian practitioners, said: "If they will but drop the sectarian title for that of physician, pure and simple, and let the old and new school questions die out, I am sure we will welcome them with open arms."

In closing his address Dr. Wiggin said that although the local profession might be compelled to wander a few years longer in the desert of disorganization, it was fair to predict that early in the Twentieth Century a Moses would be found who would lead the profession into the promised land of union and strength. When that gladsome time should arrive when all educated physicians in this State would join hands, he hoped the larger and reorganized society would adopt, as its motto, a paraphrase of that of the famous Musketeers of Dumas—"The profession for the individual practitioner, and the individual practitioner for the profession."

[1] Abstract of the Inaugural Address of the President of the New York County Medical Association, Dr. Frederick Holme Wiggin, delivered February 20, 1899.

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ORIGINAL ARTICLES.

RABIES AND ITS PREVENTIVE TREATMENT: AN ANALYSIS OF CASES.[1]

BY FOLLEN CABOT, M.D.,
OF NEW YORK;
ASSISTANT-BACTERIOLOGIST TO THE NEW YORK CITY DEPARTMENT OF HEALTH.

I BELIEVE hydrophobia to be a rare disease in the human being, but comparatively frequent in certain animals. I make this statement only after a careful study of the subject during a period of about two years. I have studied reports of cases appearing in Germany, Austria, France, and England, and of investigations in rabies which have been made in those countries.

In this country the subject has received more attention of late years, and although there is still some confusion and many wrong ideas in regard to the nature of rabies, investigators who have studied the disease thoroughly and scientifically agree in all essential points. That there are a great many wrong impressions in regard to the disease and its various manifestations is apparent to nearly all of us. Medical men and men outside the profession with only a superficial knowledge of the subject, expound their views and give most learned opinions on the least provocation in a way which makes one who realizes the vastness of the subject almost envious. Before entering into a discussion of the three divisions of this paper, I wish to say a few words about some of the obstacles to be overcome in obtaining a clear idea of a rare but nevertheless important disease.

On February 4, 1899, a dog on Staten Island bit three people; a "mad-dog" scare was started, and many people were considerably alarmed. Perhaps the dog was mad; perhaps it wasn't; all dogs which bite people are not mad. However, as there had been several mad-dog scares before on Staten Island, some of which were well founded, as I will show you presently, it seemed very important on account of those bitten and for the future welfare of the people in that part of the city to prove whether or not the dog died of rabies. The dog was captured by the agents of the Society for the Prevention of Cruelty to Animals and confined. During its confinement of between two and three days it showed some symptoms which could be produced either by rabies or by one of several other diseases. It died on February 7th, three days after the people were bitten, and was sent, not to the Department-of-Health Laboratory, but to another laboratory. So far so good; it made no difference to us whether the examination was made in one place or another so long as it was done thoroughly and according to the best scientific teaching. We learned, however, that no inoculation-tests were to be made, and as these tests are the only reliable ones we have at present, to prove the presence or the absence of the disease in a suspected animal, I applied by telephone to the president of the Society for a part of the medulla and spinal cord of this dog, explaining to him that the above-mentioned test was absolutely the only one at present relied upon by scientists to prove the presence or absence of rabies. I said I was especially anxious to obtain a portion of this dog's medulla for inoculations into three or four guinea-pigs, first, because there had been several cases of rabies on Staten Island in dogs during the past eighteen months which had been demonstrated to be the cause of death by the inoculation-test and the records of which I have; and, second, the three persons bitten were in an extremely nervous state, particularly a girl of fourteen, who was bitten slightly through her sleeve, and to whom, owing to her very nervous state, I decided not to give the Pasteur preventive treatment.

I told the president of these cases, and what a bad mental state the girl was in. I said it is of the greatest moment to make the inoculations, for if I could inform this girl in eight to sixteen days that the dog had not been mad, as was quite possibly the case, it would be of the greatest advantage to her. No one can realize how a person may become demoralized after being bitten by a dog, possibly rabid, until they have seen several such cases. To all of my reasoning the only satisfaction I received was that I could have a piece of the medulla for microscopic study, but not for inoculation into animals. The scientific fact that the inoculation-test is the only one upon which in the present state of our knowledge of the pathology of the disease we can place any reliance, had no effect on the position of the president of the Society. He also said that he did not deny the existence of rabies in animals, but considered it very rare. The physician

[1] Read before the Medical Section of the New York Academy of Medicine, February 21, 1899.

who attempts to rule out certain diseases on account of their rarity soon makes a mistake, and could not in any sense of the word be called scientific. The case he is diagnosing may be the very disease he is ruling out on account of its rarity. But for a minute considering the disease rabies as rare in animals, is it justifiable to jeopardize the mental and physical welfare of these persons and take away from them the possibility of great mental comfort which would have come if the inoculation had been made with negative result, a most probable outcome? Instead of this these people will be kept in doubt as to the result of their injuries, on account of a desire on the part of the president of the society to save some pain to three or four guinea-pigs, and his own unwillingness to believe facts which scientific men all over the world uphold with one voice. The dog was autopsied six days after it had bitten the three people and three days after its death. In its heart were found 60 to 70 round worms, 7 to 10 inches long, and the report of those who made the autopsy was that they found no evidence whatever of rabies, and that in their opinion, the dog did not die of rabies, but of the worms in the heart, which was sufficient to account for its death. The gentlemen who made the autopsy certified in the daily press in an open letter from the president of the Society that these were the facts, but do not show one line of evidence that the dog did not have both rabies and the worms in the heart; two diseases have been combined in one body before now. The reason they could give no evidence in regard to the presence or absence of rabies was because there is no change so far detected sufficiently pathognomonic of the disease. If any one has found such changes sufficiently distinct on which to base a diagnosis he has kept such a fact modestly to himself.

TABLE I.—PATIENTS GIVEN PASTEUR TREATMENT FROM MARCH 5, 1898, TO MARCH 5, 1899.

No. of Patient and Age.	Date of Supposed Infection.	Location of Injury.	Cautery and How Soon.	Date of Beginning Treatment.	No. of Injections.	Dog Proved Rabid.	Result.	General Remarks.
	1898.							
1—51 years.	Feb. 7.	28 bites, both hands and arms.	None used.	Mch. 5.	24	Yes.	Death.	Arms and hands badly lacerated.
2—23 "	Feb. 7.	9 bites on arm through clothes.	Stick silver nitrate in 5 minutes.	Mch. 5.	20	"	Recovery.	Same dog as in Case 1.
3—38 "	Mch. 16.	Right thumb and hand, glove.	Silver nitrate same day.	Mch. 19.	19	"	"	Bites rather slight.
4—6 "	Mch. 16.	One bite on hand.	Silver nitrate same day.	Mch. 19.	20	"	"	Same dog as in Case 1. Injury slight.
5—38 "	Apr. 25.	Bite on forehead.	Actual, 1½ hours after.	May 21.	23	"	"	Bite half an inch long.
6—19 "	June 20.	3 bites, left leg and thigh.	Silver nitrate in ½ hour.	June 22.	12[1]	"	"	Abscess formed at seat of injection.
7—32 "	Nov. 29 to Dec. 1.	2 points on hand.	Nitric acid, 24—60 hours.	Dec. 3.	23	"	"	Treatment sent to physician in charge.
8—30 "	Nov. 29 to Dec. 1.	Hand, possibly lip.	Nitric acid, 24—60 hours.	Dec. 3.	23	"	"	Same dog as in Case 7.
9—55 "	Nov. 29 to Dec. 1.	Hand.	Nitric acid, 24—60 hours.	Dec. 3.	23	"	"	" " "
10—25 "	Nov. 29 to Dec. 1.	Hand.	Nitric acid, 24—60 hours.	Dec. 3.	23	"	"	" " "
11—14 "	Nov. 30.	Ear bitten off.	None used.	Dec. 5.	9[2]	No.	"	Mildest treatment given.
12—84 "	Dec. 2.	Hand.	None used.	Dec. 6.	15[3]	Yes.	"	
13—28 "	Dec. 10.	3 abrasions right hand.	In ½ hr., sulphuric acid, nitric acid, thoroughly.	Dec. 16.	20	"	"	Patient a veterinarian.
	1899.							
14—14 "	Feb. 4.	Severe bite on chest.	Nitrate of silver in 15 minutes.	Feb. 6.	19	No.[4]	"	No tests made.
15—35 "	Feb. 4.	3 bites on hand.	Nitrate of silver in 10 minutes.	Feb. 6.	21	No.[4]	"	Same dog as in Case 14.

[1] Patient discontinued visits.
[2] Treatment discontinued at end of two and one-half weeks as dog was proved not to have died from rabies.
[3] Patient irregular in attendance.
[4] Dog not obtained for inoculation experiments.

The president of the Society before metioned, in his letter to the public, besides printing the above-mentioned certificates which give no account of an inoculation-test with other animals, closes his letter by saying that to his mind this examination of the dog is conclusive that it did not have rabies, and if it were not for a few persons interested in the manufacture of "auto-rabic serum" (whatever that may be) and a sensational press, we would hear the cry of "mad dog" very seldom. He also says that several cases of rabies in dogs have been reported as occurring in Staten Island, but that after a careful investigation he has found the reports not to be true. As I had informed of these cases with the results

of the inoculations made by me, and as some of these dogs sent to us from Staten Island did have rabies, as clearly demonstrated by the only reliable test, the records of which I shall give later, no more need be said on the subject.

I have gone into this case at length because it only shows what obstacles have to be overcome in the work, and how difficult it is to clear the atmosphere of prejudice and unscientific arguments. I am not attempting to cry "mad dog" in all cases or anything of the kind, but I do believe in making as careful an investigation as we possibly can for the good of people in general, and when we have found in a certain locality several cases of rabies in animals I believe it is still more important to sift all matters to the bottom, and use all the means science has given us to get an unprejudiced result.

I will now proceed with the local and general treatment of persons bitten by animals. During the past year there have come to the laboratory of the Board of Health thirty-four persons for treatment. A year ago the department opened a place for the treatment of such cases of which I have been in charge since October 1, 1898. Before that time Dr. R. J. Wilson and I had charge together. In nineteen of the cases no Pasteur preventive treatment had been given for one or more of the following reasons: (*a*) The animal was evidently not mad, it being well at the time of the patient's application. (*b*) From the history of the dog it was apparent that rabies was not the cause of death. (*c*) An autopsy of the dog combined with a history of its illness made preventive treatment unnecessary. (*d*) Wounds so slight—skin hardly cut. (*e*) Slight wound through clothing.

In all cases in which cauterization was necessary and had not been properly performed it was done at the laboratory. Latterly I have used pure nitric acid; it makes a deep wound, but it has been demonstated in a large number of guinea-pigs to be very effectual. I found that nitric acid used at the end of twenty-four hours saved ninety-one per cent. of the animals treated. This percentage was much the largest one obtained. From these experiments and other observations I believe rabies to be a disease of the nervous system, that infection takes place through lacerated nerves, that the virus remains localized for about twenty four hours, and that a thorough cauterization with nitric acid would be effectual in about every case. It should be done with the patient under an anesthetic, as it is painful and in this way can be done more thoroughly. It is, of course, best to use the cautery as early as possible. The virus of rabies, as has been demonstrated by Pasteur and others, is not conveyed into the system by the blood.

I am aware that it is contrary to the present teaching to believe that late cauterization is effectual, and this fact accounts for the inefficient way many practitioners cauterize animal bites, usually with an inferior caustic like silver nitrate, which my experiments demonstrated to be of much less value than nitric acid or the actual cautery. I am not in favor of thoroughly cauterizing all bites with nitric acid, far from it; it all depends upon the circumstances attending each case. The remaining fifteen patients applying at the laboratory have been given the Pasteur preventive treatment, two of whom have just finished their course.

TABLE II.—POSITIVE TESTS MADE FOR RABIES, JANUARY 8, 1897, TO DECEMBER 13, 1898.

No. of Case.	Date of Inoculation.	First Symptoms of Rabies.	Length of Incubation Period.[1]
Dog, 1.	Jan. 8, 1897.	Rabbit, Jan. 21.	13 days.
Dog, 2.	Jan. 27, "	Rabbit, Feb. 8.	12 "
Cat, 3.	Jan. 16, "	Rabbit, Feb. 2.	17 "
Dog, 4.	Oct. 1, "	Rabbit.	8 "
Man, 5.	Feb. 2, 1898.	G. pig.	7 "
		Rabbit.	16 "
Dog, 6.	Feb. 10, "	G. pig.	7 "
		Rabbit.	14 "
Dog, 7.	Mch. 17, "	G. pig.	11 "
Dog, 8.	Apr. 25, "	Rabbit, May 14.	19 "
Dog, 9.	Apr. 30, "	Not recorded.	
Dog, 10.	June 22, "	Rabbit, July 1.	19 "
Dog, 11.	Dec. 9, "	Rabbit, Dec. 29.	20 "
Dog, 12.	Dec. 13, "	Rabbit, Dec. 31.	18 "
Dog, 13.	Dec. 2, "	G. pig, Dec. 15.	13 "
		Rabbit, Dec. 17.	15 "
Dog, 14.	Dec. 6, "	G. pig.	8 "

[1] Average for G. pigs, 9 days. Average for rabbits, 15½ days.

All the patients with the exception of the first are in good health to-day. The first and second patients (Table I.) were bitten by the same dog (Table II., dog 6) and were treated at the Health-Department laboratory. One or two other people were bitten by this dog which we found to have been rabid, and they were treated at another place. The other patients and patient No. 2 were all bitten comparatively slightly.

CASE I.—The patient, a woman aged fifty-one years, from Staten Island, was bitten February 7, 1898. The bites were of a very serious nature affecting both hands and arms, and in all numbering twenty-eight. The wounds were deep, the tissues having been severely lacerated. Judging from the pain the patient suffered there could be no question but that large nerves had been injured. No cauterization followed these lacerations, but within a short time a mild solution of carbolic was employed. The wounds bled freely. The same dog bit the people mentioned above and also a dog owned by this patient. This last dog is No. 7 in Table II. It was bitten on February 7th, and on March 17th developed rabies, was autopsied at the laboratory and inoculation-tests made with rabbits and guinea pigs, the first guinea-pig showing indications of rabies at the end of eleven days from the time of inoculation.

The patient did not believe in rabies and thought it foolish to take any treatment, but finally on March 5th, two days short of four weeks from the time of infection, she presented herself for treatment. Most of the wounds had healed but she still wore bandages and suffered considerably. The prognosis given to her family physician and her friends by Dr. Wilson and myself was very grave, for it seemed a most perfect case for an infection through the unquestionably injured nerves. The fact of there having been no cauterization and so long a delay before preventive treatment was instituted made the case to our minds almost hopeless.

Treatment was begun on March 5th and finished on the 25th. Toward the last few days of treatment the patient began to complain of intense pain in the right arm and hand over the seat of the lacerations. The pain became so severe that sleep was interfered with and anodynes were given. On the day the patient was to have received her last treatment she was taken ill, forty-seven days after having been bitten. Her family physician did not believe in hydrophobia, so that at the beginning a diagnosis of probable grip was made. The signs and symptoms as they developed were as follow: Increased pain in right hand, arm, and shoulder, and during the night of March 25th she had frequent attacks of vomiting; when seen by her family physician on the following day, pain in arm and shoulder was less but she felt very ill; she was lying in bed and complained much of weakness and very painful vomiting. The right arm was of a rather dusky color, the wounds dark red and painful when touched. At this time there was no paresis of any kind; her grip was perhaps slightly weaker, but not noticeably so, her throat was reddened, and she had a slight coryza. A spoon was put on her tongue and no difficulty in swallowing was noticed at this time. Her pulse was rapid, 116, and its rhythm irregular; temperature 100° to 101° F. On the next day, March 26th, when seen in the morning she was very nervous, had slept but little, and now complained of inability to swallow. She had taken no form of nourishment since 4 P.M. of the day before as she said it brought on the spasms. The physician attempted to look down her throat, but the mere appearance of the spoon precipitated a spasm of the diaphragm. She jumped up and begged to be patted on the back and said she could not breathe. After being quieted a good view of her throat was obtained without the aid of a spoon. The tongue was protruded naturally. Her right arm hung down by her side, tired, she said, and she could not raise it without the help of the left hand. When supported she could lift it but the grip was feeble. During the day she had many of these attacks, jumping up and leaning for support on one of the attendants, with a slight rotation of the body to the right and backward, at the same time suffering fearful agony. She became steadily weaker during the day, the spasms became more frequent, and from less apparent cause. There was wrist-drop, and if the right arm were suddenly unsupported a spasm would follow. The spasms grew more severe, involving the whole body, and when seen by Dr. Wilson and myself on the afternoon of the 26th the scene was one never to be forgotten. There was well-marked paresis of the right arm which felt cold and was much congested. The spinal nerves became involved so that at times she became rigid, only touching her head and heels to the floor. She retained consciousness all through her illness. The suffering and feeling of apprehension was awful to behold. During the night of the 26th she became gradually weaker, some increased salivation was noticed, and she died of exhaustion on the morning of the 27th at 5 o'clock. At no time did she bark or make any attempt to bite, but was constantly crying out for relief in some form from her terrible distress. This is the only case of hydrophobia I have ever seen.

No autopsy was made, but we have enough evidence to prove it to have been a true case of hydrophobia. To forestall any possible inquiries from those who may say that the patient became infected by the treatment, I will say that:

First, we proved the dog rabid which bit this woman, also a dog was proven mad which was bitten by this dog on the same day, and which died ten days before this patient.

Second, we treated another patient at the same time and with the emulsion of cord that the patient who died received.

Third, the period between the time when any material given by us was at all virulent was only two weeks before the patient developed the disease.

Fourth, the fact that no cautery was used and that preventive treatment was not begun for nearly four weeks.

Fifth, the fact that the symptoms began in the sites of the wounds made by the dog in the right arm gradually causing paralysis of that member. If animals are inoculated in a nerve of an extremity the disease begins as a rule as paralysis in the extremity. This point has been proven by Pasteur and corroborated by others, among them myself.

Sixth, two rabbits were treated at the same time and both remained well.

Seventh, in several thousand cases treated by preventive method in the Pasteur Institute, Paris, no serious results have ever been produced by Pasteur treatment.

CASE II.—In Table II. material numbered five was taken from a man who died of rabies in Morristown, N. J., the patient of Dr. James Douglas. J. C., was bitten by his own dog on November 3, 1897. The dog was immediately killed so no evidence was obtained from that source, nor do we need any in the light of subsequent developments. The bite was on the thumb, and was cauterized with silver nitrate in three days. The man worried a little but not much more was thought about the case till January

26, 1898, about eleven weeks after the injury. The family physician was called in and found the patient sitting up in bed. He was very nervous and restless, and complained of great difficulty in breathing. Pulse, 120; temperature, 101.2° F. The patient called for a cup of coffee, but when it was brought to him he became very much excited and was trembling all over. He took the cup in his hand and after a great effort succeeded in getting a part of the coffee in his mouth the rest spilling on his face. He then had a severe paroxysm of the muscles of respiration and deglutition. His speech was slow and labored. He was apprehensive but felt encouraged when reminded that the dog could not have been mad. He was unable to sleep and was very thirsty. Water did not trouble him except when he tried to swallow it. He had no frothing at the mouth, but was troubled with a good deal of saliva, which while he lay on his side would run out of his mouth. The next morning all his symptoms were more severe; his pulse was 120 and temperature 101.6° F. He was unable to urinate. In the afternoon he was about the same. The next day he was seen at 4 A.M. He was sitting up in bed in great mental distress, and with an expression of intense anxiety. He begged to be saved. His paroxysms were very severe. He had not slept any during the night. He complained of great weakness, also of great thirst; thick mucus kept coming from his mouth. In the afternoon he was in a mild delirium. His mind, however, soon cleared and he was perfectly rational. This condition continued — occasionally delirious, then rational, gradually growing weaker, and he finally died from exhaustion on the 30th, after four days of fearful suffering. He never barked nor made any attempt to bite or injure anyone. His thirst was fearful, but he could not bear anything in his mouth on account of the spasms.

An autopsy was made by Dr. Thomas P. Prout, pathologist to the State Hospital, Morris Plains, N. J. The only gross lesion found of the central nervous system was a congestion, especially marked in the pons, medulla, and spinal cord, but by no means confined to these organs. The cortical cells of the brain under the microscope showed an extensive vacuolation, absence of chromatin in many instances, and the loss of the nucleus, together with an extremely granular condition of many cells and an irregularly outlined nucleus. Lungs showed some hypostatic congestion posteriorly with some bronchial congestion. Crepitation diminished in both, but especially on the right side. Spleen of normal size and appearance. Heart muscle very flabby; all valves normal. There was an ante-mortem clot in the right auricle, extending down into the right ventricle, and up through the pulmonary orifice. Microscopic examination of the kidneys showed some swelling of the epithelium in the convoluted tubules, and the cells in some portions were granular and necrotic. The vessels were somewhat engorged.

An examination of the blood was made, the patient not having taken food for about four hours previously. The differential count gave evidence of a decided leucocytosis, and was as follows: Lymphocytes, 7.4 per cent.; large lymphocytes, 6.4 per cent.; multinuclear leucocytes, 86.2 per cent.; eosinophiles, none. In order to make a positive diagnosis a portion of the brain was sent to the New York City Bacteriological Laboratory, and resulted as is seen in Table II., No. 5, the first guinea-pig developing furious rabies on the seventh day, and the first rabbit developing paralytic rabies on the fourteenth day after inoculation. From these animals other animals were inoculated with positive results.

Case III.—Mrs. E. of Malden, Mass., thirty years old, on November 13, 1898, was bitten on the face by a suspicious dog. About fifteen stitches were taken in the wound, which had previously been washed well with mercuric-bichlorid solution 1 to 4000. She died December 27th. Four or five days before her death she became very nervous, her face was flushed, and she complained of difficulty in swallowing on account of spasms, but she was able to take a little medicine. These symptoms became aggravated, the pulse gradually grew weaker, and she died at the end of four or five days. She was seen by Dr. Harlow and Dr. Oddin of Malden and a nervous specialist from Boston, who diagnosed the case as one of hydrophobia. Dr. R. H. Fitz of Boston was also called in consultation, and he confirmed this diagnosis. No autopsy. The dog which bit this woman was known to have bitten several dogs, one of them, a bull-terrier, being badly bitten on the head, a large lacerated wound; the dog at the end of eight days developed typical furious rabies,—spasms, inability to swallow, and increased salivation, and died in five days.

The veterinarian, Dr. William M. Simpson of Malden, who had this dog in charge, and who kindly sent me the history of Mrs. E., was afraid he had been inoculated by the dog through a wound on his hand, and came to New York for treatment. He is now in perfect health. The fact that this last dog developed rabies eight days from the time of the severe bite makes the inoculation period shorter than is usually the case. The case was too typical, however, to be mistaken, and in my opinion completely confirms the diagnosis made in the case of Mrs. E.

Case IV.—Dr. Edward N. Sparks of Prince's Bay, Staten Island, sent me the following history: Mr. T. S., aged sixty years, of Staten Island, was bitten December 23, 1898, by his dog on the right cheek, which was badly lacerated, making a wound two and one-half inches long. The wound was washed out with weak carbolic-acid solution, and Dr. W. M. Eagan was then called who cauterized the wound with nitric acid. The wound healed to some extent, so that before death there was only a deep red cicatrix. No examination was made of the dog, which was at once killed. The patient, a carpenter, went about his work and felt no ill effect

until January 27, 1899, when he began to complain of pains all over the body and a smarting sensation in the wound in his face; this was just five weeks after the infection. The next day the patient was much depressed, would start up at the least noise, and showed marked morbid aversion to all kinds of liquids. He could swallow, however, and took a little solid food and some milk. The next day, January 29th, the patient was seen at 9 P.M. He was found lying on a sofa, perfectly rational, but unable to keep still in one position. Some jelly was given to him, which he swallowed with great difficulty. The edges of the wound were of a deep, ugly, red, but he said there was no pain in it. His pulse was 86, strong but slightly intermittent, tongue and throat very dry, and covered with white viscid mucus. He was not delirious, and was able to talk, although his articulation was thick, and it evidently gave him much pain. The next day, at 8 A.M., the 30th, the patient was about the same, but pulse was weaker, 110, and slightly irregular. At 2.30 he died in a paroxysm, three days after the first symptoms. Unfortunately, there was no autopsy.

These four cases resemble each other in many respects. In the first three cases there is proof enough to convince most of us that the patients died from the bites of dogs, and the fourth resembles the first three cases in all essential points, and undoubtedly it was the same disease in all four people.

To compare them: First, all bitten by a dog, in three of the cases very severely; second, time between infection and first symptoms was five to eleven weeks; third, time between first symptoms and death three to five days; fourth, all the patients had distinct spasms, increased by irritation of any kind; fifth, difficulty in swallowing most prominent symptom; sixth, in three cases increased flow of saliva; in fourth case this point was not noted in history sent to me; seventh, increased rate of pulse, which gradually became weaker; eighth, mind clear most of the time; ninth, none of the patients showed any tendency to bark or bite, but fully realized their terrible condition.

Whether we call this disease hydrophobia or give it some other name makes little difference. We have a distinct disease with fairly definite symptoms. That the disease was inoculated by means of bites of animals suffering from the same disease is evident. These cases all occurred during the past year.

The Pasteur preventive treatment was given to 1308 people at the Pasteur Institute of Paris from January 1, 1896, to January 1, 1897. These people had all been bitten by suspicious animals. A mortality-rate following this treatment of 3/10 of one per cent. was shown of patients dying of rabies. In looking over statistics of rabies in Germany, Austria, and England, a death-rate of fifteen per cent. of undoubted cases developing rabies, after bites where no preventive treatment was given, would be a conservative estimate.

In treating a patient bitten by an animal, I should proceed about as follows: Obtain the history of the animal as far as possible. If the locality where the patient was bitten had been the seat of other cases recently, and the wound was in an exposed part of the body, hand or head, I should cauterize thoroughly within twenty four hours, using an anesthetic and nitric acid. If the wounds were severe give Pasteur preventive treatment, if the bite was superficial or through the clothes, and the cauterization was made thoroughly within twenty-four hours, I should probably do no more; certainly not if there had been no cases of rabies in the neighborhood.

The Pasteur preventive treatment can never do harm and if the patient desires it, I should always advise its use. It is given in the following way: The spinal cord of a rabbit dead from laboratory rabies is hung in a sterile jar with two vents, one in the lower and the other in the upper part, both filled with absorbent cotton. In the bottom of the jar is placed a few sticks of caustic potash to aid the drying process. The jar is kept in a dark room at a temperature of 68°–72° F. A portion of the cord thus prepared is emulsified by the gradual addition of sterile water and by means of a glass rod. A cord dried fourteen days is the one used for the first injection and then each day a fresher cord is employed until one dried only three days is finally used. The dose of the emulsion for the older cords is 3 c.c. for adults, and then finally, 1½ c.c. for the fresher ones. The injections should be given under aseptic precautions either into the subcutaneous tissue of the abdominal wall or the buttock, care being taken not to penentrate the muscular tissue. No particular reaction, either local or general, should follow the injections. Before the cord is emulsified at least two tests should be made to prove its freedom from any chance contamination. The usual course of treatment lasts fifteen days in which time twenty to twenty-five injections are given. If the subject comes late or if the injury is very severe and near a large nerve, the intensive form of treatment may be employed. In this way more injections are given daily, thus rapidly approaching the time to use virulent cords. Children bear nearly as large doses of the cords as adults.

The disposition of animals which have bitten people I believe should be as follows: Never killed, but captured, and placed in a kennel under lock and key for a week. If at the end of that time they are well, there is naturally no danger for the person

bitten. If the animal dies, an autopsy should be made, all the organs examined, and a portion of the brain and spinal cord emulsified and inoculated into guinea-pigs and rabbits. If a disease which could cause death should be found in other organs it is of importance, but we should also make the inoculation-tests to demonstrate beyond a doubt that rabies was not also present in the same case. We would in this way be able to say truthfully that according to the result of the autopsy and tests, the animal did or did not have rabies.

The shooting of the offending animal is a common mistake but is a most serious one and should be protested against by all intelligent people until we hear no more of a barbarous and ignorant mistake which has been made and is still made so frequently. In this way, many harmless animals are killed which are perfectly free from rabies, and persons who have been bitten are left in terrible doubt as to the condition of the animal.

That rabies is a relatively frequent disease in animals, I have no doubt. Dr. R. S. Huidekoper, at a recent meeting of the Harvard Medical Society where I read a paper on hydrophobia, soon to be published in *The Journal of Experimental Medicine*, gave some very interesting figures of the prevalence of hydrophobia in animals. He believes, as do many others, that rabies is more frequently seen in its paralytic or dumb form than in the furious excited type in which animals are more inclined to bite. This paralytic form is often mistaken for other diseases, and unless inoculation-tests are made, the case is recorded as something else. Dr. Huidekoper has seen about two-hundred cases of hydrophobia in the different domestic animals, both in Europe and in this country, many of the cases proven by inoculation-tests. The longest incubation period he has observed was six months in a hound in Belgium, proven by inoculation-tests. A committee not long ago was formed, among them Dr. Huidekoper, to find out if possible how much rabies prevailed in this country, and in what particular places. To do this, veterinarians all over the country were written to, and from their answers a chart of the country was made, giving the different localities with the number of cases of rabid animals seen there for a certain number of years. Perhaps a whole State would have hardly a case and again in a certain part of a State there would be a great many cases while none in the rest of its area. In the West many cases occurred in the domestic skunk and it has been so prevalent and so dangerous that in one of the States the legislature has taken up the matter for consideration with a view to taking radical measures.

Dogs are the most common animals in this part of the country to suffer from rabies. Fortunately people are not particularly susceptible so that they are seldom infected though frequently bitten. We will have rabies so long as dogs are allowed to run around without an owner or without supervision of some kind. People themselves cannot be trusted to destroy dogs for they do it cruelly. It seems to me the way to eradicate rabies from civilized centers (I am referring to rabies in dogs) would be to have intelligent agents appointed to do nothing else but look out and see that all dogs are licensed, to put a high license on dogs, higher on female than on male dogs; for these men to see that every dog has an owner; and any dog not looked after closely should be taken and disposed of humanely. In case of a suspected outbreak of rabies, to have an expert on the subject detailed to study the cases, to have all dogs in that place muzzled or taken on a leash or both for a period of six months from the time of the outbreak, and all dogs found loose, destroyed during the same period. To do this, there should be employed a number of well-paid, intelligent men. In this way I believe we could largely control this disease, and we would indeed then hear little of the cry of mad dog. A law in Germany making muzzling of dogs compulsory has been very effectual in controlling rabies.

To demonstrate further the point that rabies is not such a very uncommon disease in animals, I will give a few statistics on the subject. My friend, Dr. Langdon Frothingham of Boston, has been examining animals sent to him as pathologist to the Massachusetts Cattle Commission. He has examined thirty animals supposed to have died from rabies in and around Boston during the past eighteen months. He has used the inoculation-tests with rabbits, and among these thirty animals twenty have been proven to have died of rabies. Among these animals was a horse and a cow. The average time between inoculation and beginning rabies in the test rabbits was sixteen days, nearly the same average that we obtained in the rabbits in Table II. In 14 cases out of 21 examined by us, guinea-pigs gave an average number of 9 days between inoculation and beginning rabies, as given in Table II. I began to use guinea-pigs about a year ago, and the average time in developing rabies shows a gain of about a week in the case of the guinea-pig over the rabbit. Guinea-pigs are also much less likely to die of septicemia, points of considerable importance when a person is perhaps waiting for a diagnosis of the suspected animal before beginning preventive treatment.

Dr. J. H. McNeall of the Veterinarian Hospital, University of Pennsylvania, who was a patient at the laboratory in New York, and received the

Pasteur preventive treatment from me last December, writes that from June 1, 1898, to January 1, 1899, a period of eight months, 360 cases of all diseases in animals were treated in the hospital. Twelve of them were diagnosed as rabies, and six of them were true cases, as proven with rabbits by test-inoculations.

Dr. W. M. Simpson, a veterinarian of Malden, Mass., who came on here for treatment, and who gave me the history of Case IV. of hydrophobia in Mrs. E., which I have already described, has seen twenty-two cases of rabies in animals and the paralytic form most frequently. In nearly all cases the diagnosis has been confirmed by inoculation-tests. The symptoms presented as a rule are abundant flow of saliva, more or less vomiting and uneasiness which gives place to the characteristic condition of paralyzed jaw and throat. The dogs will often be able to lap water for a few minutes, although unable to drink, but will keep returning and trying to again and again. The dogs with the paralytic form will not, as a rule, bite, but will act as if there were a bone in the throat. The peculiar high-pitched howl is most characteristic.

Eight cases of suspected rabies in dogs have been sent to the laboratory from Staten Island during the past year, and in six of the animals the inoculation-tests were positive, showing that there has been a certain amount of reason for the recent mad-dog scare.

Dr. Harold C. Ernst, Professor of Bacteriology at Harvard, not being able to accept an invitation to attend this meeting, says that, in his opinion, rabies is not very frequent in man, that the number of cases of the disease seems to vary very much in different years, that the cauterization of bites does no good unless done practically instantaneously, but that sucking the wound and ligation when practicable should be practised. He says further that he knows of no way by which the diagnosis can with certainty be made except by the inoculation-test.

Dr. William H. Welch of Johns Hopkins Hospital, Baltimore, says in a letter to me of recent date: "I believe that rabies is more prevalent in this country than is generally supposed. It cannot be called uncommon in animals in this State, and several authentic instances have occurred in human beings. Before the establishment of the Pasteur Institute in connection with the College of Physicians and Surgeons of Baltimore I noted the greater number of suspected rabid dogs which had bitten persons in this vicinity, and during about five years twelve of these dogs were proven experimentally to be rabid. I think that most cases diagnosed as rabies by competent physicians are in fact rabies. We have means of recognizing the existence of rabies as precise and conclusive as recognizing typhoid fever; that is, the inoculation of rabbits in series. As regards rabies in animals in this State I would refer you to a paper by Dr. Clement, our State Veterinarian in the *Proceedings of the Maryland State Veterinary Association*, p. 177, for 1897. In the same proceedings for 1898, p. 28, are further statements about the prevalence of rabies elsewhere. For Washington see *Twelfth and Thirteenth Annual Reports of the Bureau of Animal Industry* (1895–96), p. 267. We greatly need accurate information as to the prevalence and distribution of rabies in this country."

Dr. Leonard Pearson, Dean of the Veterinary School of the University of Pennsylvania, writes to me as follows on the subject of rabies: "This disease is one that I have had considerable experience with during the last three years. There have been several extensive outbreaks in Pennsylvania. During the year 1898 I obtained authentic reports of the death from rabies in Philadelphia of 3 men, 1 boy, 55 dogs, 3 horses, 6 cattle, 4 pigs, 1 goat, and 10 sheep. Many other alleged cases have been reported but not proven.

"This list does not include the animals that were killed on account of fear that they might develop rabies. It includes only those actually developing the disease. In many instances the diagnosis was confirmed by the inoculation of rabbits. In several instances I have been able to trace an outbreak through several generations of disease. It is unfortunate that this disease is so poorly understood by the laity and by many physicians.

"The conflicting views that prevail in regard to it make administrative procedures extremely difficult.

"I hope that the Section on Medicine of the Academy of Medicine will succeed in placing this important subject in such a light that many false views will be obliterated."

I have heard from many prominent medical men recently and I find none who has doubts as to the existence of rabies in man and animals.

The representative men abroad and in this country, those who do the principal thinking and teaching, recognize the importance of the subject. Owing to rabies being a rare disease in man there is still a great deal to be learned about its various manifestations and methods to be pursued to eradicate it from civilized centers.

Smallpox Epidemic in Texas.—The smallpox epidemic in Texas is very serious. There are over 200 cases in Laredo, and the epidemic has spread to nearly all the towns in Central Texas.

THE CAUTERIZATION OF WOUNDS INFECTED WITH THE VIRUS OF RABIES, AFTER AN INTERVAL OF TWENTY-FOUR HOURS.[1]

BY FOLLEN CABOT, M.D.,
OF NEW YORK;
ASSISTANT BACTERIOLOGIST TO THE NEW YORK CITY DEPARTMENT OF HEALTH.

DURING the past six months I have been conducting a series of experiments with guinea-pigs to determine the effect of different cauteries on wounds after an interval of twenty-four hours from the time of infection by rabies. It has been commonly believed that unless a cautery is used within an hour after infection by a suspected animal it would be useless. This belief is held by physicians in general, and also, apparently, so far as the literature seen by me indicates, by those familiar with rabies. For this reason physicians when applying a cautery later than an hour after infection do so largely as a matter of form, for its moral effect on the patient, and so the application is not thorough, and in consequence not effectual. There is no evidence to show that this is the case at all; no systematic investigations have been published to prove the point one way or the other.

We know that the virus of rabies is not carried into the system by the blood, but through the nervous system. The objects of the series of experiments undertaken by me, the results of which are given in the tables below, were: First, to demonstrate if it be possible that the disease, rabies, after an interval of twenty-four hours has elapsed between the infection and cauterization, can be prevented from subsequently developing; and, second, to demonstrate the comparative values of some of the different cauteries and simple cleansing of the wound.

In the experiments I have used 287 guinea-pigs. The first 79 were employed to demonstrate at what point inoculations of virus would be most fatal where a cautery could be safely used, whether near a large nerve or not, and in what form and dose to employ the rabic virus. After much careful study of the subject with these seventy-nine animals, the following method was employed in all the experiments tabulated below: A portion of medulla taken from a rabbit dead from laboratory rabies was beaten into an emulsion composed of one part of medulla to five parts of sterile water. Of this emulsion one cubic centimeter was injected with a hypodermic needle into the outer and upper part of the thigh of a guinea-pig. The hair was closely cut, and the point of the needle introduced one-fourth of an inch, at right angles, into the region of the sciatic nerve. This injected virus was left undisturbed for twenty-four hours, at the end of which time an incision half an inch long was made over the seat of puncture, exposing the nerve. The tissue in the wound surrounding the point of puncture was carefully swabbed out and the cautery applied, the anima meantime being anesthetized with chloroform

The first cautery employed was fuming nitric acid, and the results are given in Table No. I.

TABLE NO. 1.—NITRIC ACID.

No. of Series.	No. of Animals Injected.	No. of Animals Cauterized.	Per Cent. Lived.	Not Cauterized.	Per Cent. Lived.
1	8	4	100	4	00
2	13	8	75	5	20
3	6	3	100	3	00
4	12	6	83	6	17
5	21	13	100	8	38
Totals.	60	34	91	26	15

This demonstrates that when nitric acid was used on infected wounds after an interval of twenty-four hours, ninety-one per cent. of the animals did not develop rabies.

TABLE NO. 2.—ACTUAL CAUTERY.

No. of Series.	No. of Animals Injected.	No. of Animals Cauterized.	Per cent. Lived.	Not Cauterized.	Per cent. Lived.
1	11	7	85	4	25
2	20	15	60	5	20
3	14	11	72	3	00
4	14	11	63	3	00
Totals.	59	44	70	15	11

In Table No. 2, in which is shown the results when the actual cautery was employed after the same interval between infection and cauterization, as in Table No. 1, seventy per cent. of the cauterized animals lived, twenty-one per cent. less than when nitric acid was used. Undoubtedly the heat killed all the virus with which it came in contact, but it is very much more difficult to reach all parts

TABLE NO. 3.—NITRATE OF SILVER. (LUNAR CAUSTIC.)

Series of Animals.	No. of Animals Injected.	No. of Animals Cauterized.	Per Cent. Lived.	Not Cauterized.	Per Cent. Lived.
1	18	15	46	3	00
2	12	9	88	3	00
3	15	13	31	2	50
Totals.	45	37	55	8	16

[1] Read before the New York Pathological Society, December 14, 1898.

of a wound with the cautery-needle than with a fluid like nitric acid, which naturally seeks a level, and thus penetrates all portions of the wound.

According to Table No. 3 it will be seen that only a little more than one-half of the cauterized animals did not develop rabies. In these experiments nitrate of silver was demonstrated to be inferior to nitric acid or the actual cautery.

In the next series of experiments, the results of which are presented in Table No. 4, no cautery whatever was employed, but at the end of twenty-four hours after injection in the usual way the point of infection was cut open, and the wound swabbed out with dry absorbent cotton and then left open.

TABLE NO. 4.—WOUNDS SIMPLY SWABBED OUT.

No. of Series.	No. of Animals Injected.	Number Swabbed Out.	Per Cent. Lived.	Not Swabbed Out.	Per Cent. Lived.
1	23	15	33	8	12
2	26	11	29	10	20
Totals.	49	26	31	18	16

The results shown by this table (No. 4) seem to demonstrate that a certain amount of good may be derived from simply opening and swabbing out infected wounds.

In the foregoing tables all the animals that died had typical rabies. There was a question of this in five animals, and these have not been included in my statistics.

It seems to me that the following observations on the result of my experimental investigations in hydrophobia are of sufficient importance to be recorded: That guinea-pigs inoculated subdurally with street rabies develop the disease as a rule in its furious form in from seven to ten days, and are much less likely to die from septicemia, while rabbits treated in the same way do not as a rule develop the disease until fifteen to eighteen days have elapsed, and then in the paralytic form, and are also very susceptible to septicemia, thus proving the superiority of the guinea-pig for the purpose of making an early diagnosis in the case of a suspected animal. This is a point of considerable importance when it is remembered that most of the subjects one sees have been bitten by animals when the diagnosis of rabies is questionable, an exact diagnosis being of the utmost importance on account of the subsequent treatment.

The following case is an example, and several such have come under my personal observation: A person was bitten by a suspicious animal; the animal was killed and inoculations were made from the medulla into rabbits and guinea-pigs; at the end of ten days the animals remained well, so the Pasteur treatment, which had been employed in its mildest form, was not increased, but was continued a few days longer as a precautionary measure, and then, as the animals still remained well, discontinued altogether.

It will be well, however, to bear in mind the individual immunity or delayed development of rabies in a small percentage of guinea-pigs, and to inoculate a sufficient number of animals to allow for such an individual resistance to the disease. In the light of the history of a recent case, in order to assure an early diagnosis, I shall in future inoculate from fifteen to twenty guinea-pigs from every suspected subject.

An animal supposed to he mad should never be killed, but should be confined and carefully watched during at least two weeks; if it dies before that time a definite knowledge of the course of its disease will be gained, and the medulla may be used for inoculations, while if it remain well for two weeks fear of hydrophobia need no longer be entertained, with the consequent elimination of the element of danger to the patient and his great mental relief.

The foregoing observations have been of practical use during the past ten months, during which time the Health Department, having adopted the Pasteur preventive treatment for hydrophobia, has treated several people and has examined many animals which were sent to the laboratory for autopsy and test-inoculations to determine whether or not the case was one of rabies.

The conclusions I have drawn from my investigations are: (1) That ninety-one per cent. of guinea-pigs can be prevented from developing rabies if the wounds be cauterized with chemically pure nitric acid at the end of twenty four hours from the time of infection, probably a larger percentage if the cautery be used earlier. (2) That fuming nitric acid is more effectual than the actual cautery or pure nitrate of silver. (3) That some degree of benefit is derived from thoroughly opening and swabbing out an infected wound within twenty-four hours from the time of infection when no cautery is used. (4) That in cases in which the Pasteur treatment cannot be applied great benefit may be derived from the correct use of the best cautery and proper treatment of the wound. Even in cases in which the Pasteur treatment can be given, an early cauterization will be of great assistance as a routine practice, and should be very valuable, as the Pasteur treatment is frequently delayed several days for obvious reasons. (5) That in the case of small wounds all the treat-

ment probably indicated will be thorough cauterization with nitric acid within twenty-four hours from the time of infection. (6) That from twelve to sixteen per cent. of the guinea-pigs used as controls do not die after inoculation, thus demonstrating that a small percentage of guinea-pigs have a natural immunity from rabies.

THE RELATION OF DIAGNOSIS AND PROGNOSIS IN HIGH GRADES OF GASTRIC STAGNATION.

By A. L. BENEDICT, M.D.,
OF BUFFALO, N. Y.;
PROFESSOR OF PHYSIOLOGY AND DIGESTIVE DISEASES, DENTAL DEPARTMENT, UNIVERSITY OF BUFFALO.

In cases of marked dilatation, and even in milder degrees which show severe symptoms, or in which advancing age or some similar circumstance arouses grave suspicions as to the nature of the disease, mechanical, chemical, and vital elements must all be considered in making a prognosis. Three questions present themselves: (1) To what degree can the size of the stomach be diminished and its motor-function be restored? (2) Will the stomach regain its digestive power? (3) Is the life of the patient threatened? At first thought it would seem that the first question would not occur to the patient, but, in a surprisingly large number of instances the patient is aware of the degree of dilatation, can map out his own stomach quite accurately, and may even be an adept in the use of the tube.

Mr. W., aged thirty-five years, in comfortable circumstances, gave a history of stagnation extending back thirteen years, without obvious cause, though ulcer at the pylorus was suspected. For four years he had used the stomach-tube, mainly without medical supervision. His stomach, nine hours after a meal, and further emptied by repeated vomiting, extended fully an inch to the right of the median line and as far below the umbilical equator. It was as large as a full stomach should be and an inch and a half below the normal position. The diagnosis between sagging due to dilatation and sagging due to ptosis was somewhat doubtful. For some reason not noted the diaphane was not used to decide this point though the writer would confess that he cannot depend absolutely on this method of discrimination. In fact true dilatation is very likely to accompany displacement of the stomach while apparent ptosis is always noted in dilatation unless advanced pregnancy or some peculiar condition keeps the stomach at a high level. Granting that the trouble was genuine dilatation this case represented about the maximum degree in which cure can be expected by medical treatment. The first question in prognosis was, therefore, doubly in doubt; the duration of the trouble and the fact that the patient was still able to attend to his business made the third question as to maintenance of life favorable. The second question, as to the probability of cure of dyspeptic symptoms in case the stomach could be restored to normal size, was answered only by the progress of the case, and then not positively. Hydrochloric acid was found present several times about four hours after eating, but was absent an hour after a test-meal. The filtered gastric juice on adding hydrochloric acid digested coagulated egg-albumen fairly well. Sometimes it was necessary to supplement the secretion of hydrochloric acid, sometimes not. On the whole it was decided, especially as after a month the stomach had contracted and risen very nearly to its normal location, that thorough treatment would bring about a cure unless there remained so great a mechanical obstacle at the pylorus that the dilatation would tend to recur as soon as treatment should be stopped. The patient proved to be one of the kind that is not lacking in appreciation but that does not persist in treatment. He was materially improved and even as late as five months after the beginning of treatment and more than three months after its cessation his stomach was in fair position though showing some relapse. Naturally the dyspeptic symptoms had not entirely disappeared.

This case is reported rather fully because it stands as a type of a fairly large number. Judging from other cases which have been under observation for a much longer period, if such a stomach can be reduced to its normal size, if cancer can be eliminated from the diagnosis, if there is not a cicatrix or other lesion at the pylorus which tends to reproduce the dilatation, if the ferments are present in the gastric juice, if there is no renal nor circulatory trouble to maintain a catarrh of the stomach, if the patient will continue treatment for six months and will abstain from positively harmful articles of food and drink, he can expect to be cured symptomatically—that is, functionally—as well as in regard to gastric area. In the present case, as in one of the milder cases elsewhere reported,[1] there was some indication of beginning sclerosis of the liver. In the case of another patient whose stomach was of about the same size and who has considered himself cured for two years hepatic contraction certainly exists and just as certainly will, sometime, reassert itself by a renewal of gastric symptoms. But in a surprising number of cases all of the conditions necessary to a cure will be fulfilled.

The prognosis as to the chemic restoration of the stomach must, nevertheless, be guarded. In cases of curable dilatation of marked degree the patient should understand at the beginning of treatment that a "dyspepsia" will persist for several months after the size of the stomach has been reduced to normal, if such a restoration be possible. If the muscular tone of the organ becomes normal so that it is empty at the proper time after a meal, if hydrochloric acid is present in normal amount and the filtered juice

[1] Medical News, April 9, 1898.

acts rapidly on coagulated egg-albumen, if gastric mucus—which is quite easily distinguished from esophageal—is not abundant, the prognosis is favorable. The microscopic examination of particles of mucous membrane found in the wash-water after lavage has been described by Ewald, Einhorn, Hemmeter, and others. These examinations are tedious and by no means as reliable as might be anticipated. Careful studies of the stomach have shown that the mucous membrane does not necessarily show the same conditions at different points. It is therefore a matter of accident whether a bit of exfoliated epithelium gives us a fair average or an exceptional picture of the state of the stomach. Einhorn's and Hemmeter's reports show also that there is only a very general correspondence between the chemic state of the glands and the microscopic findings. There is also a practical consideration which would naturally occur to any one *a priori* but which is verified by clinical experience, namely, that it is difficult to base a definite opinion as to diagnosis on a shred of tissue which is in nine cases out of ten, merely dead epithelium cast off from the mucous membrane. Hemmeter mentions an instructive case in which a student tore off a little piece of gastric mucosa, and Turck has devised an instrument for thus sampling the mucosa of dogs, but it is never justifiable to seek a fresh piece of tissue from the stomach of a patient. It is evident to any one who will look at the figures of cancer-nests and of normal alveoli as shown in text-books—Ewald's for instance—that slight degenerative changes after exfoliation will often obscure the differential diagnosis. In a case seen by the writer, in which several competent physicians had diagnosed cancer and in which a pyloric tumor was palpable, which was also marked by hematemesis, five examinations failed to reveal a typical cancer-nest, though many round epithelial cells were seen. In another case it was possible to state quite positively that cancer-nests were present though no one group of cells would justify an absolute statement, but the value of the microscopic examination was vitiated by the fact that other signs and symptoms made the diagnosis still more positive. However, in many cases of suspected cancer every possible diagnostic light is needed. Thus, in general, the writer would grant a microscopic examination of fragments of gastric mucosa ought to be made in every doubtful case, but rather with the idea of training the diagnostic faculties than because definite results are at present attainable. The main value of such study is in the distinction of cancer. Up to the present time this method has not enabled us to distinguish accurately between organic and functional diseases of the stomach so that the differentiation between catarrh and glandular sluggishness remains a vague one.

The vital question in prognosis refers to the coincident development of some disease more malign in its tendencies than the dilatation or other degree of muscular change. Extrinsic diseases, as of the heart and kidney, which are very frequently the indirect cause of gastric catarrh and dilatation, need not be considered in detail. The three grave gastric diseases are anadenia,—which may be considered the culmination of catarrh—ulcer, and cancer. Anadenia is fatal only when deficient motor-power of the stomach or serious failure of the intestinal digestion occurs. As a general rule the intestine will maintain good nutrition so long as the stomach will push its contents along. It is not possible to make a positive diagnosis of anadenia during life unless through surgical opportunities for direct investigation, but the condition may be inferred with great probability if several examinations of the gastric contents show non-acidity (hydrochloric) and absence of pepsin. Addison's disease may manifest itself by a suppression of ferments simulating genuine glandular atrophy.

The diagnosis of frank gastric ulcer is easy. Latent ulcer, according to researches by Stoll and others in Germany, seems to be of an entirely different clinical nature, usually affecting the middle-aged and elderly, not prone to hemorrhages of any magnitude, and not diagnosable during life, unless with the gastroscope. A case showing by external examination almost the same gastric area as in the first case reported has been under observation since 1891 and the history shows that the dilatation was then of some years' standing. Repeated hemorrhages occurred. When a patient consults a physician regarding prognosis his inquiries are generally, in substance, Can I get well? and How long shall I live? In the case of ulcer we can no more answer these questions than similar questions by a man sitting on a keg of dynamite; we can only say that the condition is always dangerous but that the fatal accident may be averted.

The most important question regarding prognosis in gastroptosis and dilatation is only another wording of the question as to the presence or absence of malignant disease. The solution of the problem is easy and the prognosis correspondingly grave when cachexia, tumor, and hemorrhage, one or all, are marked. Sometimes the exfoliation of parts of a growth renders the diagnosis as indisputable as one made on the autopsy-table. But such a diagnosis and prognosis are hopelessly late. Realizing this, the profession has caught at every straw that might support an early diagnosis and has not stopped to consider that while cancer almost always leads to

serious depression of function the same degree of depression may exist temporarily without cancer. Diminution of urea, absence of hydrochloric acid, presence of marked lactic-acid fermentation have in turn been upheld as pathognomonic of cancer. All have likewise been disproved, though the German investigations referred to in several reports of the meetings of the Berlin Medical Society for 1895–6 regarding the fallibility of the lactic-acid test have only recently become known in this country. It is surprising that the presence or absence of pepsin, which is really more serviceable in the diagnosis between malignant and non-malignant gastric failure than any of the others, has not been suggested as a pathognomonic sign. But non-malignant anadenia shows a lack of ferments. However, from the patient's standpoint, a complete anadenia with concomitant intestinal failure is a malignant disease. Dilatation may continue for some time without enabling a positive diagnosis for or against malignant disease to be made. These cases also suggest the thought, Are they malignant from the beginning, or does the cancer develop as a result of the dilatation and inseparable chemical disturbance? Age is not a reliable factor in determining the diagnosis. The writer recently had under observation a patient, aged thirty-two years, on whom gastrostomy had been performed for malignant occlusion of the esophagus, and who presented strong evidences of cancer,[1] besides indubitable ones of dilatation of the stomach. Here the dilatation seems to have been the original disease and to have been due to habitual use of enormous quantities of beer, four gallons being said to have been a customary daily allowance.

On the other hand a pyloric tumor is not necessarily malignant. Rosenheim cites such a case in which the diagnosis was confirmed by a number of careful observers who noted the gradual growth of the tumor, afterward explained as due to progressive emaciation, and the usual cachexia and symptoms of cancer. On autopsy the growth was found to be entirely fibroid. Had it not been for the confirmed diagnosis of cancer, gastro-enterostomy would have been performed and recovery would probably have occurred. Einhorn has reported a number of similar cases but considers pylorectomy or pyloroplasty as the ideal treatment.

Deplorable as the fact is we must acknowledge that positive diagnosis of gastric cancer cannot be made in time for radical surgical operation in the present state of our knowledge. The diagnosis may sometimes be made with considerable probability, but usually the patient should be sufficiently informed as to the probabilities and possibilities to take upon himself the responsibility of accepting or refusing a sufficiently early exploratory operation. The fact already referred to, that the major part of digestion is performed by the intestine, renders the prognosis of non-malignant gastric diseases of all kinds quite directly dependent upon the state of the motor function.

[1] Cancer of the stomach involving the left lobe of the liver, besides an esophageal tumor, verified by autopsy.

CLINICAL MEMORANDA.

AN INTERESTING CASE OF HYDROPHOBIA: RECOVERY.

By JOHN J. LIGGET, M.D.,
of Ladiesburg, Md.

February 14, 1878, D. S., an American laborer, aged thirty-four years, weight 140 pounds, married, informed me by a messenger that he had pains in his stomach and side, and desired some purgative medicine. I sent him some compound cathartic pills with directions to take two at night and one in the morning. February 15th, at 10 A.M. I visited him and found that he had had two evacuations after taking the pills. He fainted soon after 8 A.M. He was lying in bed, had pains in the epigastrium and was indisposed to talk. His pulse was normal, but he had convulsive tremors in all his limbs. I suspected malingering, and left a placebo, directing that sinapisms be applied to the epigastrium and along the spine if the tremors continued. At 5 P.M. I received an urgent call to visit the patient who had had spasms since 4 P.M. I was unable to visit him that evening, but sent him chloral hydrate, 75 grains in solution, which was taken in 15-grain doses from 10 P.M. until 4 A.M. on Saturday. He had thirteen convulsions during this time.

February 16th at 8 A.M. I found him in a strong convulsion. Five able-bodied men were laboring to keep him in bed. Was very violent and endeavored to seize those around him with his teeth and hands. Profuse secretion of viscid saliva. Head cool, pupils sensitive to light during spasm, pulse slightly frequent and tense. Bled him to the amount of ℥ xxiv. Symptoms of syncope. In half an hour free alvine and urinary discharges occurred. Spasms ceased for an hour, and then returned as strong as before. He drank a little water just before the spasm; there were convulsive movements of the glottis before, during, and after drinking. Consciousness perfect between the spasms. Could always give warning of an approaching attack. Suspecting an inflammatory condition of some of the nervous centers, I gave him at 10 A.M. half a grain each of morphin sulphate and antimony and potassium tartrate. This had but slight effect, and in two hours I repeated the powder. Applied sinapisms to ankles. At 9 P.M. the spasms had been less violent since noon. The patient had taken four powders since 10 A.M., as well as 3 ounces of rum. Tenderness over tenth dorsal vertebra; applied a small blister at 10.30 P.M. Had previously tried to inject morphin subcutaneously in back, but failed as the pricking of the needle produced a convulsion. A teaspoonful of water

in the mouth produced a spasm. Before a convulsion he would lie perfectly motionless, answering questions, eyes closed, and breathing laboriously. Then a lateral motion of the eyes beneath the lids would commence, and in a minute or two the eyelids would open to their widest extent, and the gaze be fixed on the ceiling. Suddenly he would spring as though acted upon by a powerful electric apparatus, get up on his hands and knees and be nearly out of bed before he could be seized. He would then be turned on his back, and held only by great effort. He would make desperate efforts to bite those about him, would forcibly eject saliva from his mouth. Apparently a series of galvanic shocks would start from the head and radiate along the spine and extremities. The breathing during a paroxysm was hurried and difficult. The jaws were perfectly mobile. An onion was held near his mouth and he instantly snapped at it with his teeth during one of the paroxysms. During a paroxysm the fingers and thumbs could be flexed or extended at will. A light brought to the bed would instantly produce an attack. I gave the fifth powder of morphin and antimony tartrate at 10 P.M. and at midnight gave him 1 grain of morphin and ½ a grain of antimony and potassium tartrate. At this time I was told that the patient had been bitten a year or two before by a dog believed to be mad. The precise date was not recollected. Examined a well-marked cicatrix on leg, but could detect nothing abnormal. Patient said that the bitten leg had pained him several days before his illness. Perceiving no effect from the last powder I repeated it at 2 A.M., and left him an hour later. Prognosis very unfavorable.

February 17th, 9 A.M. Found patient in same condition. He had taken two more powders. Blister had been removed at 4 A.M. Had drawn well. At 11 A.M. consulted with Dr. Milton A. Lauver of Bruceville, Md. At 12 M. while the patient had a spasm, Dr. Lauver applied a small quantity of water to his neck and breast. He became furious. The laryngeal and respiratory muscles were powerfully affected. At 1 P.M. gave him 2 grains of morphin sulphate. At 4 P.M. he was given morphin sulphate 2 grains and antimony and potassium tartrate ½ a grain. He had six terrific convulsions from 1 to 5 P.M. In our consultation Dr. Lauver and I coincided in the diagnosis of hydrophobia. From present indications the patient must inevitably succumb to the disease, and the line of treatment, if persevered in, would be extremely hazardous. In thirty hours he had taken 10½ grains of morphin and 5 grains of antimony and potassium tartrate. Dr. Lauver and I returned to my office and examined the *American Journal of the Medical Sciences* for January, 1860. My father, Dr. John E. H. Ligget of Middleburg, Md., had reported a case, which he believed to be hydrophobia, in that journal. The patient was a female and had recovered. We believed that the only way to save the patient's life would be to follow my father's treatment.

February 17th, 6 P.M. Gave patient calomel 3 i, in a spoon mixed with a little syrup. He took it with some effort. In half an hour he became quiet and fell asleep. Pulse 72, respirations 12. Aroused the patient at 8.30 P.M., when he asked for water. Gave him a gill, and in eight minutes he had a moderately severe spasm which lasted twenty-five minutes. After spasm micturition occurred for the first time in thirty-six hours. At 9 P.M. gave him calomel grs. x. Rested quietly and became talkative. At 10 P.M. symptoms of catharsis. Gave tincture of opium 3 ss, and left him for the night. February 18th, 10 A.M. Found patient better. Had taken calomel as follows: 20 grains at 12.30 A.M.; 3 i at 4 A.M.; 20 grains at 6.30 A.M. Had four convulsions from 10.30 P.M. until 10 A.M. Pulse 80, respirations normal. Paroxysms had been mild and lasted from fifteen to thirty minutes. As soon as the attacks ceased he was given calomel 3 i. For four hours he rested perfectly. At 10.20 P.M. he felt another attack coming on. Gave him calomel 3 ss, which arrested it at once.

February 19th, 10 A.M. Found patient just over a paroxysm caused by noise of children. Lasted twenty minutes and was moderate. First spasm in twelve hours. Bowels had moved moderately twice. Dejections dark green. About same time vomited some green viscid mucus which contained some of the unabsorbed calomel. Salivary secretion free. Mouth not sore. Tongue clean. Asked for coffee, milk, etc., which he drank in small quantities. February 20th, 9.30 A.M. Patient resting quietly. No return of paroxysms. Bowels moved slightly at 5 A.M. Some vomiting and considerable retching during night. Ulcers making their appearance on the inner surface of the cheeks. Salivary discharge free. Castor oil, ℥ i, given at 2 P.M. February 20th, 8 P.M. The oil acted twice, moderately. Dejections green. Symptoms of ptyalism pronounced. Takes milk every two hours, and occasionally a cup of coffee with bread in it. Kidneys acting well. Complains of soreness and stiffness about the nucha. Directed gargle of infusion of white-oak bark with alum and honey. (Quer. alba cort., a small handful, aqua bulliens Oi, alum ℥ i.) February 22d, 5 P.M. Quiet since last report. Mouth and ala nasi sore. Pain and stiffness in jaws. Gums swollen and spongy. General stiffness of the muscles. Takes nourishment freely. Sleeps some when everything is quiet. In conversation he told me that during the previous week he was irritable. Quarrelled with his wife. Said he had to make a strong effort to drink water or other fluids. The sound of pouring water made him tremble. During the spasms he felt a disposition to tear or rend everything around him. He believed that a cupful of water poured on him would have given him the strength of a dozen men. Said that he felt something like a knife cutting his stomach during the spasms. He then described a feeling of numbness in both ankles before each attack, which ascended in waves toward his head, and when it reach his breast he was seized with the paroxysm. Said he felt a dread of something he could not describe.

March 3d. The patient sat up all day. Appetite very good. Bowels regular. Has been taking subcarbonate of iron since Wednesday last. Mouth nearly healed. Says that he feels some aversion to water. Pouring water causes a thrill through his whole body. Occasionally has frightful dreams in which a large yellow dog

plays a prominent part. March 6th. He walked out to-day and I ceased attendance. In a month he was in robust health, and engaged in his usual occupation. Amount of calomel exhibited in Dr. J. E. H. Ligget's case 270 grains; in my case 260 grains.

A CASE OF HYDROPHOBIA.

By C. GERSTMEYER, M.D.,
of Terra Haute, Indiana.

I was called to see the little daughter of J. K., living one mile south of Terra Haute one night at two o'clock. The father was walking the floor, with the child's arms clasped tightly about his neck. The child's countenance was expressive of great terror. The father said the child would have a convulsion if he ceased walking. I walked by his side and touched the child's hand, when she had a terrible convulsion. When the spasm had subsided she begged me not to come near her or touch her again. I sat down, the father continued walking the floor and the child continued to have convulsive "shivers." The mother asked me what ailed the child. I said I did not know, I had never seen anything like it before.

The mother then said that they had had a vicious but useful watch-dog which they kept tied up in the day-time and turned loose at night. He would run over to the slaughter-house and fight with other dogs. One morning about six weeks ago her husband called the dog but the dog was sullen and would not come so he dragged him to the kennel by his collar and tied him. At 10 A.M. the little girl went to the kennel to feed the dog when he bit her in the face. When Mr. K. came home he killed the dog. The wounds in the child's face healed quickly and there was nothing unusual noted until the previous evening. The children had peanuts and the little girl said laughingly that she could not chew them. Later at supper she rather peevishly complained of not being able to swallow her tea and ate no supper. After supper she played with the children as usual. At midnight the parents were awakened by the child's screams. She was in convulsions and looked as if she was badly frightened and wanted to hold on to her father. She was perfectly rational.

I remembered that some one advised the application of cold water to the spine and back to control the convulsions of hydrophobia and asked the mother to get some towels and cold water. The father was still walking the floor and I applied the wet towels to the child's back. She promptly had the most fearful convulsion I ever witnessed but I persevered with the cold applications until the child asked to be put to bed. The cold applications were continued, she had no more convulsions and went to sleep.

I saw her again the next morning. She was in bed and her mother said the spasms could be controlled by the cold applications. I saw her again at 2 P.M. She was sitting on her father's lap, had a frightened expression of countenance, looked rather wild, and was very talkative. She said to me, "Doctor I am better, give me some medicine, I want to get well." I put a few drops of spirits of niter into a cup of water and offered a teaspoonful to her. She said, "No, let me have the spoon." I held the cup so she could dip out the supposed medicine herself. The movement of her hand from cup to lip became more and more rapid until she became convulsed all over. She could not swallow. My next visit was at 10 P.M. She was dead. The mother told me she had no more convulsions after I left. At 6 P.M. she ate some bread and butter with tea which she seemed to relish. She then fell asleep and died without wakening and without a struggle.

THERAPEUTIC NOTES.

Partial Resection of the Testicle for Tuberculosis.—Delore (*Centralbl. f. d. Krank. d. Harn- und Sexual-Organe.*, January 21, 1899) advocates an exploratory incision along the convex border of the testicle in cases of tuberculosis of this organ, to be followed by a partial resection of the diseased tissues leaving as much of the rest as may be. The inspection of the testis from its surface often gives a false impression that it is sound when there are nodules of tuberculosis in its center. This danger will be avoided by splitting it up in the manner advised, when after removal of any such nodules the organ may be sutured. The presence of even a portion of the testis in the scrotum, after the removal of the epididymis, is of considerable value to the individual from a sexual point of view.

Treatment of Soft Chancre.—Grineperte (*Rev. de Therapeut.*, January 13, 1899) has employed in ten cases of soft chancre the following treatment: Twice a day a local bath is given in a 2-per cent. solution of creolin at a temperature of 38° to 42° C. (100° to 108° F.), lasting for fifteen to twenty-five minutes. The ulceration is wiped and powdered abundantly with salol and bandaged. In two or three days it dries up entirely and does not secrete any more. At the end of a week cicatrization commences and completes itself in two or three days, forming a solid elastic scar. The baths are to be continued until the healing is complete. The average duration of treatment was eleven days.

Two New Methods of Treating Sciatica.—Bucelli (*Gaz. heb. de méd. et de chir.*, February 12, 1899) applied the method of Negro (cutaneous digital compression) in fifty-four cases of sciatica, with good results. In all the patients who were cured, the sciatica was of recent date, nine to forty-seven-days' duration, and no marked neuritis was present. Amelioration usually appeared at the end of the first treatment, and increased progressively. In general it may be said that the treatment by compression had a better effect in the cases in which the pain was located at definite points, and in which there were no trophic disturbances. Another method of treatment, that advised by Bonuzzi, was applied in thirty-two cases with the result of a complete cure seventeen times and improvement ten times. The patient was stretched upon his back on a horizontal plane. The trunk was held firmly by an assistant, and the chief took hold of the fully

extended leg, and flexed it as far as possible on the body, the knee being held straight meanwhile. This was done slowly and thoroughly. This method of treatment, was most successful in cases of neuralgia pure and simple, without complication of neuritis.

Solution of Calcium Chlorid in Gynecology.—Calcium chlorid, says a writer in *La Presse Medicale*, December 24, 1898, is an antiseptic of great power and deserves an especial place in gynecologic treatment because of its faculty of dissolving albumens, while corrosive sublimate, creasote, nitrate of silver, etc., coagulate albumen and are thus prevented by their own action from contact with the diseased surfaces. A strong solution is made in the following manner: Three ounces of fresh calcium chlorid is added to thirty-six ounces of water. The mixture is shaken and allowed to stand one hour. It is then filtered through double paper into a bottle holding one quart. This bottle should be of dark glass and closed by a glass stopper, sealed with a little paraffin. For use a glass of this strong solution is mixed with nine glasses of hot boiled water, so that the whole shall have a temperature of 40° to 50° C. (105° to 122° F.). This solution may be employed in lotions, douches, compresses, and tampons; in vulvovaginitis, endocervicitis, both external and internal, in inoperable cancer, etc. It shortens the duration of acute inflammation considerably, and is particularly useful in the treatment of endocervicitis, with glairy mucous discharge. Such a solution of calcium chlorid, the cost of which is almost nothing, is ten times more valuable as an antiseptic than bichlorid of mercury and, being neither caustic nor poisonous, may be safely used for intra-uterine injections in puerperal infection.

Wet Dressings of Alcohol.—ZANGGER (*Lancet*, January 28, 1899) has produced the greatest relief in inflammations of various kinds, felons, lymphangitis, furunculosis, etc., by covering the inflamed areas with gauze and cotton saturated with strong alcohol. Over this is placed a sheet of gutta-percha tissue to prevent the alcohol from evaporating, and the whole is held in place by a bandage. In numerous cases such a dressing was used alternately with a wet-dressing of 1 : 2000 bichlorid of mercury in water, or after the failure of such a dressing to control the pain and swelling, and the rapid improvement under the alcohol applications left no doubt in his mind that it was far superior to a watery dressing. The dressings are not serviceable in chronic glandular swellings.

The Treatment of Delirium Tremens by Atropin.—TOUVIME (*La Semaine Med.*, January 11, 1899) has tested in some forty cases the effects of the injection of atropin in the delirium of alcoholism, and has found that the injection of 1/200 to 1/150 of a grain if preceded by a warm bath and cold applications to the head will generally suffice to quiet a patient in twenty or thirty minutes. In certain cases the good effects are delayed however for some hours. If there is much muscular action the drug has an exciting effect for a few minutes, and then its calming action begins. Such a patient should receive as his first injection only half the maximum dose, and every ten hours a slightly increased dose, until the maximum of 1/150 of a grain is reached. Usually only two or three injections will be necessary. If there is pneumonia the baths are omitted. In very severe cases of delirium Touvime begins treatment with the administration of 80 or 90 grains of diuretin in an ounce of water. This produces sleep, and after that the atropin is injected.

A single injection of atropin each day is of benefit in the exacerbations of dipsomania. The patient should be kept in a somnolent condition by the administration of the following mixture, which is to be given in teaspoonful doses every fifteen to thirty minutes till the desired effect is obtained:

℞	Chloral hydrat.	ʒ ijss	
	Ext. thebaic	gr. j	
	Aquæ	℥ vj.	M.

Milk-Leg in Typhoid Fever among Soldiers.—DA COSTA (*Internat. Med. Mag.*, January, 1899) found that twelve per cent. of 135 soldiers treated for typhoid fever in the Pennsylvania Hospital suffered from milk-leg. This is six or eight times as frequent an occurrence of this complication as has generally been noticed. No sufficient reason could be assigned for this, as they had not been subjected to long marches or other exhausting exercise. This trouble has usually been ascribed to phlebitis, but there is not necessarily any inflammation of the vein antecedent to the thrombosis. If present it causes pain, which is otherwise absent. The leg should be elevated, and hot lead-water or witch-hazel applied to relieve pain, to be followed by strips of belladonna plaster if pain continues. Absolute rest is essential. It is of the utmost importance that the patient does not get out of bed too soon. When he does get up he should have either an elastic stocking or flannel bandage. Sometimes there will be pain and swelling of the leg for as much as eighteen months afterward.

Treatment of Tubercular Cystitis by Iodoform Oil.—RENIAC (*Gaz. heb. de méd. et de chir.*, January 29, 1899) reports fourteen cases of tuberculosis of the bladder which were treated by iodoform in liquid vaseline. Since the oil floats upon the surface of the water in the bladder, it is possible for the patient by stopping the stream as soon as the first drop of oil appears to retain the oil in his bladder for several days or a week or two. When it has all been ejected a new quantity is introduced, usually an ounce, containing 25 grains of iodoform. By this means there is made a continual application of the medicated oil to the diseased parts, and not only are the pains relieved, but the healing effect of the iodoform is manifested to a marked degree. Of the 14 patients so treated, 6 were greatly improved, 7 were improved, and only 1 was not favorably affected.

For Cardiac Disturbances During Thyroid Treatment.—It has been found by BEDARD and MABILLE in experiments on dogs, that if Fowler's solution be administered during a course of thyroid treatment no cardiac disturbances occur. The application of this fact in human practice has, therefore, been suggested.

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SATURDAY, MARCH 18, 1899.

RABIES IN AMERICA.

The New York Board of Health has performed a distinctly meritorious as well as scientific service to the American medical profession in seriously taking up the investigation of the existence in this country of rabies or hydrophobia. The results of that investigation up to date are presented in Dr. Follen Cabot's paper which appears in this issue. Those interested in the subject (and what medical man is not?) will find some further interesting facts in the discussion of Dr. Cabot's paper at the meeting of the Section on General Medicine of the New York Academy of Medicine which is also published in this number.

For various reasons a certain amount of doubt has existed in many, even medical, minds as to the occurrence in this country of genuine hydrophobia. From this false assumption has come at times the thought, not infrequently expressed, that hydrophobia in Europe might be only a delusion, a severe functional neurosis on a psychic basis, rather than the dread disease itself. Pasteur's reputation as a great scientist has suffered in the minds of many American physicians because of his invention of the preventive treatment of rabies. Certain American views on this matter have been the subject of no little opprobrium abroad. The calm assumption by certain people that practically the whole profession of several great European nations could be utterly deceived on a subject like this was almost too much to forgive to even American self-sufficiency. The quizzical looks that gathered on Russian doctors' faces at the last International Congress at Moscow, when an American medical visitor said that there were doctors in America who doubted the existence of hydrophobia, was one of the silent but indelible impressions of the meeting. The Russians could only think of it as a huge joke after the American fashion, for rabies needs no special seeking to be found in Russia.

Cabot's work, in connection with the laboratory of the New York City Board of Health, shows that rabies unfortunately does exist in this country. A number of indubitable cases have occurred recently on Staten Island. There were, not long ago, at least two foci of the disease in New Jersey, as the discussion at the New York Academy of Medicine shows, while Dr. Frothingham is authority for the statement that a series of cases of true rabies is in progress, at least among animals, in the vicinity of Boston. We have reported in our columns two cases from Long Island within the past two months in which inquiry among medical men who had been close to the patients gave us practically the assurance that they were cases of true rabies. We printed the report of a case from one of the Western States not long ago, and we publish two more this week in which the evidence seems conclusive that the disease at work was genuine rabies.

Now our object is not to raise a disquieting mad-dog scarce, nor to terrify people accidentally bitten by a perfectly healthy pet animal into rushing off to receive the Pasteur preventive treatment for rabies. Even when bitten by a really rabid animal the chances of hydrophobia developing in any particular case are not very great. Bites are often through the clothing and the infectious material is absorbed from the fangs by the cloth and does not reach the circulation, and in cases in which the bites are on exposed parts the person bitten is in many instances not susceptible to the disease at the moment and escapes infection. We wish merely to insist on the

fact that rabies exists among us here in the United States and that proper precautions to prevent its spread are necessary.

There are entirely too many vagrant animals on our streets. They are liable to be the sources of other diseases besides rabies. Dr. Cabot's and Dr. Frothingham's remarks as to quarantine and the registration of dogs deserve the most serious attention. An educated public opinion in the matter will do much to make possible the enforcement of existing laws and smooth the way for future enactments. Too many medical men in this country have held halting views on the subject of rabies, and the result has been a failure to disseminate among the public well-grounded intelligent information regarding the regulation of the life and habits of dogs. Proper precautions rigidly enforced for a few months with observation of suspected animals would rid us entirely of all danger in the matter. Let us hope that the work so well done by our Board of Health will not be unproductive of beneficial results.

ANIMAL SUFFERING VERSUS HUMAN SUFFERING.

WE have purposely refrained from commenting on a subject that occupied quite a little public attention some weeks ago, because we wished the medical side of the case with regard to hydrophobia to be before the public in order to lend weight to our comment. There is no longer any possible doubt of the existence of the disease in our neighborhood nor of the fact that within the last year or two at least three human beings have died of it.

Knowing these facts it is clear how completely unjustifiable was a recent decision of certain authorities of the Society for the Prevention of Cruelty to Animals of New York City, in refusing to give up certain parts of a suspected animal that had bitten certain people residing near a recognized focus of the disease, in order that it might be decided definitely that the animal had or had not had rabies. The Society for the Prevention of Cruelty to Animals pooh-poohed the idea that rabies existed on Staten Island, and had an autopsy of the animal made from which they pretended to be able to conclude that it had not died of hydrophobia. What possible grounds the Society could have for such assurance in the present state of our knowledge of the post-mortem lesions of rabies no one can imagine, but it absolutely refused to allow any portions of the dead animal's medulla to be used for inoculation into other animals though all authorities are agreed that that is the *only* way to decide *with certainty* as to the existence or non-existence of rabies in a given case.

The inoculations, if successful, would have given to two animals for a few days a modicum of pain; for animals, as a rule, acquire the dumb or paralytic form of the disease. If the inoculations had failed to produce the disease human beings would have had lifted from them a serious weight of mental suffering extending over months. All necessity of submitting to the inconveniences of the Pasteur treatment would have been dismissed from their minds, and their friends would have been at once relieved of all anxiety. On the other hand if the inoculations had proved successful, definite absolute indications for treatment of the individuals affected would have been present, as well as for definite steps looking to the welfare of the community.

All of this was prevented by the unwarrantable presumption of the Society for the Prevention of Cruelty to Animals: (1) that rabies does not exist in the neighborhood of New York; (2) that the suffering of one or two animals for a few days is to be weighed against prolonged serious human suffering and an important question of public health; and (3) that the final adjudication of the question must rest upon an exaggerated disproportionate sympathy for animal suffering.

We are thoroughly in sympathy with the movement for the prevention of unnecessary suffering on the part of animals. We appreciate the great good work that the Society for the Prevention of Cruelty to Animals has done in this country, but we deprecate these exhibitions of a false sentimentality in favor of animals that sometimes characterize the action of certain members in authority in the Society. Let us care for the animal by all means, but let us bear in mind that our brother-man must be the first object of our care. Let us look at things in their proper proportions and appreciate the relations among creatures, without allowing hyperesthetic sensibility, fostered by the autosuggestion of endowing animals with feelings that only supersensitive human beings have, to fatally warp our judgment and hurt the very cause we are trying to help.

PNEUMONIA AND THE DOCTORS.

Under the above caption the *New York Times* of Monday last comments editorially on Mr. Kipling's recovery from his recent severe attack of double pneumonia. "Hereafter," says the *Times*, "when a physician loses a pneumonia patient of good constitution and under forty what excuses can he hope to give that will satisfy the friends of the deceased? We do not see that he can give any. They will be prone to believe that what has been done can be done again."

This comment is typical of the position the non-medical mind is very apt to take with regard to medical questions, because it assumes a simplicity of process in disease that scientific medical progress is showing us clearer every year exists nowhere in the domain of pathology.

Even in uncomplicated cases physicians are not called upon to treat simply the pneumonia but the patient suffering from pneumonia. At a given moment the tissues of a certain individual, for reasons in many cases not quite clear, become a favorable culture medium for the growth of a little plant, the pneumococcus. This little plant is present very often in the sputum of healthy individuals for long periods without causing any untoward effects. Once it has taken root, as it were, its growth depends on the continuance of the favorable tissue conditions that allowed the original implantation. Natural forces in the body at once begin to react to preserve the human organism. It takes a certain number of days, usually 5, 7, or 9, before the so-called critical period is reached and Nature's triumph is announced.

Medical science at present can do nothing to abort the pneumonic process. Physicians can only stand by and assist natural forces in their struggle, can only watch for the first sign of flagging heart to stimulate it judiciously, can only combat the weakening effect of excessive temperature by the various antipyretic methods. The ultimate issue of the struggle depends on the patient's constitution and his power to react against the physical conditions mechanically interfering with respiration in his lungs, and the toxins which are produced during the growth of the pneumococcus and absorbed into the system. Some idea of the poisonous nature of these toxins may be gathered from the fact that they are probably not unlike the alkaloidal poisons, strychnin, aconitia, morphin, and the like, which, it is to be remembered, are also of vegetable origin. For despite the oft-repeated cry of the quack that his medicines can do no harm because forsooth they are herbal remedies, *i.e.*, are obtained from plants, it is from the vegetable kingdom that medicine derives her most potent drugs.

Had we an antitoxin for pneumonia as we have for diphtheria then we would be able to attack the disease directly, for if we could prevent the weakening of the system by neutralizing to the toxins Nature would very soon dispose of the pneumonic process in the lung as she does of diphtheria under similar circumstances; we could anticipate the crisis before any serious organic exhaustion had taken place. We cannot, however, and so our treatment for the present at least is only supporting. As a rule, with very few exceptions, "pneumonia patients of good constitution under forty" react successfully against the disease, but in no case can an absolutely favorable prognosis be given and for reasons which may be briefly summarized as follows: First, seemingly healthy people often reveal unexpected weak points in their systems under the strain of disease. Second, the pneumococcus does not limit itself to the lungs in some cases but invades other organs, even the central nervous system, making serious complications. Third, different varieties of the pneumococcus are very variously virulent, *i.e.*, some of them produce much more toxins than others, just as one poppy-plant produces more opium and its alkaloid morphin than another. Fourth, sometimes at the same time with the pneumococcus other micro-organisms are implanted in the lungs. This is notably the case with the influenza bacillus in times when that disease is epidemic. As may be readily understood the absorption of influenzal toxins with those of pneumonia adds seriously to the danger. Fifth, at times so-called pneumonia is not due to the pneumococcus but to other micro-organisms that often in mixed infections produce the signs of consolidation to be found in ordinary pneumonia. These cases run a very irregular course and the crisis is often delayed or absent.

Because the exercise of the highest medical skill and the most careful nursing has fortunately saved Mr. Kipling there is no reason why even the same

skill and care will save every other patient. The *Times* says very well: "Eternal vigilance is the price of success in the treatment of pneumonia patients. It was the unremitting and skilled attention, the uninterrupted readiness at every instant to give the patient the help he needed in the fight that saved this indispensable life to his family and the world of letters." It is the supremest care that guarantees as far as lies in human power against a fatal issue in pneumonia; but even with this care there will, until the much-wished for, much-worked for, specific medication of an antitoxic serum comes, always be some fatal terminations of the disease even under circumstances that at the beginning seem favorable.

NOTABLE BOOKS.

We present this week a review of Professor Landouzy's "Clinical Lessons in Serum-therapy." It forms the first of a series of reviews which will appear in our columns during the present year, of the most notable, recently published books. Only books of general interest by great teachers and investigators, or which are conspicuous by their unusual merit, books that every one should know at least something about, will find a place in this department.

Professor Landouzy's instructive *résumé* of the present state of serum-therapy will be followed by a review of the latest work of Professor Waldeyer, the distinguished anatomist of Berlin, entitled "Das Becken" (The Pelvis). This in turn will be succeeded by "Guia Practica, Higienica y Medica del Européo en los Países Torridos (Filipinas, Cuba, Puerto Rico, Fernando Poo, etc.)," by Federico Montaldo. (A Practical, Hygienic, and Medical Guide for the European in Torrid Countries (especially the Philippines, Cuba, Puerto Rico, etc.). The work was crowned by the Royal Academy of Madrid just before the Spanish-American War, as a book designed to furnish accurate information to intending colonists in the Spanish possessions that have since become ours. A review of the work on "Hirn Chirurgie," by Professor von Bergman of Berlin in its latest edition will follow in due course, and other books of the same practical, scientific, and progressive character will have a place.

ECHOES AND NEWS.

Health of Havana Improving.—The death-rate at Havana for the week ending March 3d was lower than at any time since 1894. During the week there were 187 deaths from all causes. There were no deaths from either yellow fever or smallpox.

The Climate of Cuba.—Dr. John Guiteras, in a lecture delivered at the University of Pennsylvania on March 6th, stated his opinion that sixty per cent. of Americans who go to Cuba for the first time will contract yellow fever, and the death-rate among the sick will be from five to six per cent.

Total Deaths in the Army.—On March 10th the following statement was issued at Washington showing the total number of deaths reported to the Adjutant-General's Office between May 1, 1898, to February 28, 1899: Killed in action, 329; died of wounds, 125; died of disease, 5277; total, 5731.

Poison in Wall-Papers.—Dr. E. M. Chamot of the Chemical Department of Cornell University states, as a result of a chemical analysis of wall-paper, which he has been carrying on for several months, that nearly all wall-paper sold at the present time contains arsenical poisons, some of them in large quantities.

Trained Nurses Celebrate. — More than 800 trained nurses, representing twenty different schools, celebrated at the Waldorf-Astoria Hotel on the evening of March 6th the formation of the first class of trained nurses in Bellevue Hospital twenty-five years ago. Many physicians were present. The orator of the evening was Dr. William M. Polk.

Dr. Deaver to Leave the University of Pennsylvania.—The resignation of Dr. John B. Deaver, as Assistant-Professor of Applied Anatomy, has been tendered and accepted to take effect at the end of the present academic year. By this resignation the Medical Department of the University loses another eminent instructor and valuable member of its teaching body.

An Anniversary in Honor of Volta.—On May 4, 1899, the city of Coma, in Italy, will celebrate the hundredth anniversary of the day on which Volta, one of her citizens, invented the pile which goes by his name. On this occasion an International Exhibition of Electricity will be held, and a section will be devoted to the various medical applications of electricity.

Home for Aged Invalid Poor. — The Pringle Memorial Home of New York City was incorporated on March 3d. Its purpose is the care of invalid, aged, and indigent men. Dr. Albert W. Ferris of New York, Richard B. Ferris of Mount Vernon, Stephen V. White of Brooklyn, James W. Manier of Binghampton, and Clarence M. Trent of Buffalo are the directors.

Factors in the Production of Degeneracy.—E. S. Talbot, M.D., D.D.S., of Chicago, in his book on "Degeneracy,

Its Causes, Signs, and Results," considers tobacco a causative agent of greater importance than alcohol or opium. He regards intolerance of alcohol an expression of degeneracy. Opium is in his opinion a considerable factor in the production of insanity.

Board of Examiners in Lunacy.—There has been introduced in the Legislature at Albany a bill providing for the appointment of a Board of Lunacy Examiners for New York City, to consist of eleven physicians (one of whom is to be the chief examiner), in place of the four physicians who have heretofore done the work for the greater part of the territory now embraced within the enlarged city.

Chlorin in Pneumonia and Diphtheria.—Dr. Bracelin's "corrected chlorin," which has already been used at the Kingston Avenue Hospital, Brooklyn, is now employed in the treatment of diphtheria at the Willard Parker Hospital for Contagious Diseases in New York City, where it is used to some extent in the place of antitoxin. The New York City Health Department is also experimenting with this gas in cases of pneumonia.

Hospital Ship at Savannah, Ga.—The United States Hospital ship "Missouri," arrived at Savannah, Ga., on March 10th from Cuba with 226 sick soldiers. The sick troops will be placed in the Government Hospital at Savannah which has just been completed. The men are suffering from malaria, rheumatism, typhoid fever, and from the results of traumata. None among the soldiers is dangerously sick. Quite a number are from the 202d New York Regiment.

"Curtain-Faced Man" is Dead.—Michael Kelly, sixty-four years old, Bellevue's oldest patient, died in Ward 3 on March 7th after a continuous residence of twenty-five years in the hospital. His disease was fibroma molluscum. There were a great number of fibromata upon various portions of his body, the most conspicuous of which was an enormous pendulous mass extending from his scalp down over his neck. He was a subject of demonstration at many medical lectures.

Mr. Kipling's Physicians Congratulated. — At the regular bimonthly meeting of the Council of New York University on March 6th the following resolution was adopted: "The New York University Council hereby extends its congratulations to the Dean of the Faculty of Medicine, Dr. E. G. Janeway, and his associate in the Faculty, Dr. Theodore Dunham, upon the success which has attended their efforts to save to the cause of letters and of mankind the life of Rudyard Kipling."

New School for Nurses in New York.—The training-school for nurses at present connected with the New York Post-Graduate Hospital is to be supplanted by a new school, which will cost $100,000, and which will be known as the Margaret Fahnestock Training-School for Nurses of the New York Post-Graduate Hospital; it is founded by Harris C. Fahnestock in memory of his wife. Three lots in Twentieth street, opposite the Post-Graduate Hospital, have been purchased, and it is expected that the building, which will contain accommodations for seventy or more nurses, will be completed within the year.

New Cornell Medical College.—The plans for the new medical college which Colonel Oliver H. Paine will present to Cornell University have been filed. The building will be five stories high and will cover the entire west side of First avenue from Twenty-seventh to Twenty-eighth street. There will be three great amphitheaters, two of which will be two full stories in height. The dissecting-room will be 50 feet wide and 170 feet long and will be lighted by the largest skylight in New York City. Steam-heat, electric lights and a refrigerating plant will be features. It is expected that the building will be ready for occupancy by the fall term of 1900.

The Death-Rate at Chickamauga.—A statement compiled in the Adjutant-General's Office at Washington shows that the deaths from disease from the first occupation of the camp at Chicamauga in the middle of April to its abandonment in the middle of September, and including the four battalions which remained to January 1st, were 341, or a little less than half of 1 per cent. The deaths of the Volunteer force which was mobilized at Camp Thomas up to December 2d, which was 2½ months after they had been withdrawn from Camp Thomas, and after the close of all campaigns in which any of them participated were for this period of six months 1.61 per cent.

Perfection in Illustrative Art.—The most striking reproduction in colors of a pathological specimen that we have ever seen, the most perfect in its finish, in its truth to Nature, in its delicate coloring, and complete detail is contained in the current number of *The Journal of Experimental Medicine.* It is the picture of the heart taken from a case of gonorrheal endocarditis, which is reported by Drs. Thayer and Lazear of Johns Hopkins. Dr. Thayer presented the original water-color drawing of the specimen before the Section of Medicine at the International Congress at Moscow where it made quite a sensation among the foreigners, was greatly admired, and elicited frequent enquiries as to how it was done and where, and who, had done it. We are glad to see that this artistic gem has been reproduced so worthily. It is a distinct step in advance in medical illustration at least. The editorial management and publishers of *Experimental Medicine* have our congratulations on the new model for imitation which they have furnished medical illustrators all over the world.

Human Rabies in the Philippines.—It seems of interest to note, as we happen to be devoting considerable space to hydrophobia this week, that there are two distinctly characteristic forms of this disease that occur in the Philippines as a consequence of the bites of rabid animals. According to the *Cronica de Ciencias de Filipinas* (we believe this is the first time that a medical fact has been gleaned from a scientific journal published in our new possessions) the disease under one of these two forms is by no means uncommon on the islands. The writer of

the paper describes a form in which the sight of water or of anything that suggests swallowing, sets up spasms that become general. In a severer form which he calls arophobia, the slightest sensory disturbance, a breath of air, a flashing reflection from a shining object, a slight noise, will initiate the spasmodic attacks. Besides these divisions of the disease according to its severity there is another classification made; the furious and paralytic forms of the disease. It is noted that the furious form may be accompanied by a maniacal excitement while the psychical manifestations of the paralytic form are usually the symptoms of depression and melancholia. The therapy of the disease consists of prompt cauterization followed for weeks by some form of herbal tea that causes profuse respiration. Under this method of treatment most of the cases are said to recover. Unfortunately no statistics or details of cases are given to substantiate this very interesting statement. We cannot refrain from remarking that the whole exposition of the subject however, is thoroughly scientific. The forms of the disease described are well known especially in animals. The fact that the spasms in severe cases are initiated by a breath of air, has been looked upon as almost pathognomonic by the last European authority who treated the subject of hydrophobia exhaustively, in the article on "Lyssa" in Professor Nothnagel's series on "Special Pathology and Theraphy." We shall evidently find some brothers in the profession in the Philippines who are not unworthy of their new relation with the American fraternity. If they have, as this one seems to have had, a little over confidence in the effectiveness of their remedies we do not think that they will for that reason be any the less sympathetic to American doctors.

NOTABLE BOOKS.

LES SEROTHERAPIES, PAR L. LANDOUZY.[1]

FOR those desirous of obtaining material for lectures and articles on what is most recent in serum-therapy this book is a treasure-house. To those who fear that serum-therapy will ever entirely displace the older methods of treatment the author says very pertinently in the preliminary lecture:

"Do not imagine that even if serum-therapy and opotherapy should respond more to the demands of medicine that you would not have to care about the old therapeutics which knew so well how in many a pathologic state to bring into action the vis medicatrix naturæ. Do not imagine that the success of serum-therapy will lessen your importance. There will always remain to be cared for, to be treated, to be managed, to be encouraged, only too many unfortunates, some with hereditary affections, with diseases of nutrition, with occupation and alimentary toxemias, the victims of accident, of youthful indiscretion, of dietary errors, of physical or intellectual overwork, the consequences of the struggle for existence, and of the neglect of hygiene inevitable even in our day."

Of course as a good Frenchman he gives Pasteur his proper place as the founder of serum-therapy. All the credit that is due to Pasteur is often not accorded him in America because our medical development of late years has been influenced mainly by German medical thought. Then, too, the slurs cast upon the antirabies injections by the Germans produced an unfortunate prejudice as to Pasteur's other work here; but all that is gone now, even the Germans have been converted and Pasteur is to take the place Landouzy gives him as the bright particular star of modern medical biology.

The review of the deaths attributed to diphtheria serum fills a most interesting chapter. Each is discussed in detail. We note with regard to the most famous one, the Langerhaus child in Berlin, after whose death the father, Virchow's assistant, announced next morning in the papers that it had been *killed by Behring's diphtheria serum*; that though 1300 doses of this identical serum were used in other cases not a single fatality or complication was noted. Landouzy calls special attention to the fact that ozena yields in a majority of cases to injections of diphtheria serum and in the other cases improvement almost invariably follows.

The question of the expectation of life after tracheotomy is an extremely interesting one. Ten years ago Landouzy reviewed the subject in a series of lectures in which he showed that tuberculosis nearly always carried off tracheotomized patients within a comparatively few years after the operation in practically all cases. He now repeats this conclusion and in the light of his riper experience and continued observation on the subject it must carry great weight. He quotes Dr. Simon of Paris, who has passed his life among children and who does not know of a single living adult who had been tracheotomized as a child.

For tetanus Professor Landouzy insists very much on the value of preventive inoculations. When he delivered these lectures the intracerebral injection of tetanic antitoxin had not been thought of. Tetanus antitoxin can now be produced of such marvelous antitoxic value that in all cases that carry with them in the slightest degree the suspicion of infection with tetanus germs he advises the injection of a preventive dose. Tetanus serum is now made that is efficient to one-trillionth; that is, an animal injected with one-trillionth of its weight of the antitoxin can with impunity be given an otherwise absolutely fatal dose of tetanus toxin and will survive without manifesting any symptoms. In human beings the preventive dose would be infinitesimal—a minim or less.

The lectures on antivenomous serum are of more interest to Americans now that our recent acquirements in the tropics and the East are apt to bring our soldiers and colonists more in contact with venomous serpents. The discussion of the subject is complete, the English as well as the French contributions being thoroughly reviewed. The diffusibility of snake-venom and the absolute necessity for rapid action after snake-bites is illustrated by an experiment on a rat. An injection of cobra-

[1] Les Serotherapies. Leçons de Therapeutique et Matiere Medicale professées á la Faculté de Médicine de l'Université de Paris. Par L. Landouzy. Paris: MM. Georges Carré et C. Naud, 1898.

venom is made into the rear third of a rat's tail and one minute later the tail amputated. Death takes place nevertheless from the poison.

An interesting review of a subject not often heard of outside of France is concerned with the serum-therapy of the manifestations produced by the invasion of the colon bacillus of parts outside the intestinal tract. Italian workers have shown that immunity is conferred on animals by certain soluble products of cultures of the bacillus coli. As urinary infection is nearly always caused by the colon bacillus finding its way into the bladder, Albarran and Mosny have tried certain products of the bacillus for therapeutic purposes in these cases and with encouragingly good results.

Landouzy had the opportunity to study Maragliano's serum very carefully in Paris in his own clinic. He thinks it does relieve certain symptoms of the disease, as the fever and sweating that are due to the toxins absorbed from the tubercular foci, but does not think that it influences the tubercular process itself. It is antidotal but not anti-infectious; it is antituberculinous but not antituberculous; antitoxinemic but not antimicrobic, to quote Landouzy's own series of adjectives.

A series of very interesting lectures is devoted to what Landouzy calls artificial serum-therapy, *i.e.*, to the injection of normal salt solution. He insists that this shall be prepared from recently *boiled* distilled water, not from aqua destillata that has been standing for some time. He uses the normal salt-water injections in minimal and maximal doses. Given in from 2-5 c. c. (minimal dose) into the buttocks or directly over the seat of pain he recommends them for their mental effect, in helping to overcome certain bothersome, partly physical, partly psychical symptoms of lipothymiques, *i.e.*, delicate, nervous individuals or convalescents. In maximal doses of a pint and more he considers them extremely efficient in a number of medical as well as surgical emergencies, but this subject is well known.

CORRESPONDENCE.

QUININ IN MALARIAL HEMOGLOBINURIA.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—I send you a volume containing some statistics concerning the use of quinin in malarial hemoglobinuria and a brief article on the pathology of that disease. These have been called forth by the reply to Dr. Hare in the MEDICAL NEWS of January 21, 1899.

I must add my feeble protest to that of Dr. Deffenbaugh to your propagation of a rather fatal therapeutic doctrine, that is largely hereditary in our standard textbooks.

The immediate cause of death in nearly all the cases of malarial hemoglobinuria to which I have had reference, or that have come under my notice, has been "urinary suppression." As this is not a factor in the ordinary malarial manifestations there must be some added element which renders its pathology different, either in kind or in degree, from the other forms.

When this difference has once been clearly defined, when the pathological condition present in a case of acute malarial hemoglobinuria can be put alongside of that in one of malarial quotidian fever, it may then be seen why a remedy that is antidotal in the one case may be lethal in the other, although the underlying cause may be the same in both.

A national therapeusis can arise from a sound pathological foundation only. This we will not have until a scientific clinical study of the question is made here in the South where this fever prevails.

Many lives are sacrificed each year that might be saved and I am glad to see the question of treatment brought so prominently into notice by your journal. The Johns Hopkins school has done so much in this country to advance our knowledge of the malarial parasite and its effects on the human body that it would seem particularly its province to settle the mooted points on this phase of the question. This work can only be done by those trained for this kind of investigation, and I regret that such specialists and malarial hemoglobinuria are not generally found in the same localities. Very truly yours,

BROOKS COLOMB, M.D.

UNION P. O., LOUISIANA, February 27, 1899.

We too shall be sincerely glad if our articles on quinin in malaria attract renewed attention to certain phases of the question and especially to the use of quinin in so-called malarial hemoglobinuria. In setting forth the practical conclusion that quinin should be freely used wherever malaria is clearly present no matter what the complication, we were but following some of the world's best authorities on malaria. When the original article on quinin in malaria was written the idea was to combat a certain feeling of distrust that had recently sprung up with regard to the free use of quinin in the estivo-autumnal type of malaria which has become familiar to us because of the Cuban campaign. This distrust had been fostered by ill-advised protests, editorial and otherwise, in certain medical journals and had already shown its effect by a tendency on the part of certain physicians to give too small doses of quinin in general, and on the part of soldiers and others exposed to malarial infection by a refusal to take quinin as a prophylactic.

As to the so-called malarial hemoglobinuria we are not ourselves convinced of its malarial origin. It is not merely the expression of an intense malarial infection. It occurs very rarely in Italy though pernicious malaria is not uncommon there. In Europe it occurs frequently only in Greece. It occurs in certain parts of Africa but not in others. In our own South there seems reason to think that it is not due to severe malaria alone, but that there is something specific about it, since it is much more frequently reported in certain malarial districts than in others. The subject is well worthy of study. Meantime excellent authorities insist on the free use of quinin in the condition if there are (sometimes there are not) clear symptoms of malaria with it. That quinin is not its original cause is evident since it does not occur in Italy where quinin is probably used with more freedom than any other place in the world. We shall be only too glad to

welcome from workers in Southern fields contributions that will tend to throw light on this interesting and extremely important question—ED.

MORTALITY FROM TYPHOID FEVER IN PHILADELPHIA.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—When I failed to see my letter to you in your issue of March 4th, though you must have received it in ample time to publish it, and I had no acknowledgment of its receipt, I thought—perhaps too hastily—that you did not intend to publish it, and being desirous that the real facts should be known, I took the letter to the editor of the *Philadelphia Medical Journal*, who kindly agreed to insert it in his paper. This is the explanation, which I think is due you, of the letter appearing in both journals at the same time.

The editor of the *Philadelphia Journal* thought with you that my statistics were too ancient, so that I furnished him with statistics of a later date to be placed in a note to my letter. These figures represent the average death-rate of typhoid and malarial fevers per 100,000 persons living for the seven-years period (1890–1896), and are as follows:

	New York.	Brooklyn.	Philadelphia.	Boston.
Typhoid Fever...	19.72	18.48	44.60	32.48
Malarial Fever...	7.87	16.45	3.04	

These statistics show an even lower death-rate from typhoid fever in Philadelphia than I claimed before, a fall from 69.35 in the preceding six years, or a diminution of about 36 per cent., and the decrease would have appeared greater if I had included the deaths from "malarial fever," but I have not done this as you object, somewhat unreasonably as it appears to me, to consider the two causes of death together. On the other hand in the three remaining cities the decrease in typhoid mortality is shown to have been but about 19, 20, and 17 per cent. respectively, or about half as much as in Philadelphia. If these results are held as a measure of the exertions of the several cities against the spread of the disease, I think it must be acknowledged that Philadelphia has done twice as much in the period named as either New York, Brooklyn, or Boston in diminishing its death-rate from typhoid fever.

The reasons for my taking the older statistics in my first letter were that the accepted measures for the prevention of typhoid fever are practically the same now as they were ten years ago and I believe the older figures to be the more reliable, being based upon the population as returned by the United States census, while later figures are subject to the optimism of their compilers with regard to the increase of population, an optimism likely to be exaggerated in the sanguine atmosphere of New York. But I am generous enough not to regret it when I consider the satisfaction you must have felt at being able to get off once more that time-honored joke with reference to the alleged want of progressiveness in Philadelphia which seems so dear to the hearts of "a certain class of" New Yorkers.

I have to find fault with you in your remarks on my letter that you start off again on your curious career of misrepresentation. Though I distinctly said at the beginning that I did not intend to defend the presence of typhoid fever in Philadelphia, which no one deplores more than myself, but simply to expose the pharisaical nature of your attack upon the city, you make that the issue and then proceed to tear to pieces the man of straw you have set up. Surely you must know that is an old, and the most discredited, trick of the pettifogger. I should be ashamed of that, my dear fellow. It would take too long and perhaps be unprofitable to expose all of your misrepresentations, but there is one assertion you make in your editorial, and reiterate in your remarks, so contrary to the facts, that I wish to make an issue of it, and I hope you will meet the question in a manly, straightforward way, and not with amusing persiflage. You say, speaking of the prevalence of typhoid fever in Philadelphia, "matters have grown worse not better in the last fifteen years" and "the last year is the worse of the ten," and you insist upon this in spite of my unchallenged statistics which show a decrease of thirty per cent. in late years. You give no statistics, even "manipulated" ones, and I call upon you for the proof of your assertion. I have no doubt you can accumulate to sustain you as many opinions as there are leaves in Vallombrosa, even one from that eminent medical authority the daily *New York Times*, but these without facts will avail you nothing.

RICHARD A. CLEEMANN, M.D.

PHILADELPHIA, MARCH 12, 1899.

[It seems too bad that a medical man should plunge into a controversy on a medical subject and know so little about it, as our correspondent confesses that he knows about typhoid fever in Philadelphia. He now quotes statistics of more than three years ago and wishes to know our authority for the statement that the last one of the last ten years was the worst of them all as regards the deaths from typhoid fever. Why did he not consult the Philadelphia health reports before putting pen to paper on so important a subject?

In our issue of February 4th our Philadelphia correspondent quotes from the annual report of the Medical Inspector of the Board of Health of Philadelphia the number of cases of typhoid that occurred in Philadelphia during 1898 and the deaths therefrom. There were 4749 cases of typhoid in the city, excluding 1348 cases among soldiers in Philadelphia hospitals, and 639 deaths. But why go back to the statistics of other years to say that Philadelphians, all of them, are criminally negligent of their duties as citizens? During the week ending March 4th, there were **443** cases of typhoid fever in their city, and **49** deaths, and during the week ending March 11th, there were **419** cases, with **39** deaths. During the eleven weeks of the year **1899**, up to March 11th, there were **381** deaths from typhoid. This indicates the existence of almost a pestilence in the city, and yet *nothing, absolutely nothing* is being done to remedy the matter, and physicians are not wanting to attempt to defend this awful state of affairs!—ED.]

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

TEN-WEEKS' RECORD OF THE TYPHOID EPIDEMIC AND AN EPIDEMIC OF CEREBROSPINAL MENINGITIS—MODERN ANATOMY—TYPHOID COMPLICATIONS—RETRODISPLACEMENTS OF THE UTERUS—PERSONAL NOTES—HEALTH STATISTICS.

PHILADELPHIA, March 13, 1899.

THE end of the week brought the total number of cases of typhoid fever reported since January 1st up to *3424* and the total number of deaths for this period, ten weeks, is *360*. During the past week another epidemic has started, one of cerebrospinal meningitis, and thus far, or during last week, 34 cases with 13 deaths have occurred, 5 cases and 5 deaths having been reported on Saturday alone.

A special meeting of the Board of Health has been called for Tuesday, the 14th, for the purpose of discussing the best method of combatting and preventing the spread of "spotted fever" and a memorial has again been presented to the councils urgently requesting immediate action looking to the betterment of our water-supply. Editorials in the press and resolutions from various bodies of citizens seem to have no effect, however, and the merry death-dance goes on.

At a meeting of the Philadelphia County Medical Society, held Wednesday, March 8th, Dr. Edmund W. Holmes read a paper on "Modern Anatomy" which was discussed by Professor Carter of the Central High School, Professor Trotter of Swarthmore College, Dr. Allis, Dr. Forbes, Dr. Mills, Dr. Hewson, Dr. Beattes, and many other men interested in teaching. Dr. Holmes thinks there are three fallacies in medical teaching: large clinics, didactic lectures, and old-fashioned dissecting-rooms. He characterized the medical student of to-day as an investigator and no longer a receptacle for words such as the didactic lecture forces him to be. He believes the didactic lecture should outline the part to be dissected perhaps but believes actual observation should take the place of lectures, that museum specimens should be kept in the dissecting-room and be used, and that the old idea that anatomy can only be learned by dissection by the student is fallacious unless the latter be shown how to dissect and knows what he is dissecting or in other words has some preliminary knowledge of anatomy. Dr. Holmes made a strong plea also for the teaching of histology, embryology, and comparative anatomy in schools preliminary to medicine, thus giving more time in the medical school which with advantage could be used in other ways. He compared the average student who dissects one subject, part by part, to an engineer who has seen one engine taken apart or put together. In conclusion he expressed his belief that the younger men should do the demonstrating and general routine work, thus utilizing didactic lectures as supplements to the course and giving a professor of a branch time for original work and research.

Dr. Forbes followed and said that the "sanctus sanctorum" in the temple of Hippocrates was the dissecting-room, for human anatomy is the basis for all medicine. Comparative anatomy he considers unnecessary and he believes the cause of insufficient anatomical knowledge is to be found in insufficient time for its study and lack of subjects, though the latter trouble has been partly overcome by the Anatomical Act (for the enactment of which Dr. Forbes did so much). The idea Dr. Forbes tries to follow in his teaching is that of having his demonstrators act as tutors to small sections of students and to personally conduct weekly examinations of the students on the cadaver.

Many unusual and interesting features of the present epidemic of typhoid were reported last week, Dr. Joseph Sailer reading a paper on "Typhoid Ulcer in a Meckel's Diverticulum" and Dr. David Riesman one on "Typhoid Ulcers in the Esophagus."

A symposium on "Retrodisplacements of the Uterus" was held by the Obstetrical Society on March 2d. Dr. Wilmer Krusen discussed the etiology and said that of 1000 women applying to the gynecologic department of Jefferson Medical College Hospital, 199 or 19.9 per cent. had displaced uteri. He called attention to the importance of etiology in the treatment. Dr. J. M. Fisher discussed the diagnosis, Dr. F. H. Maier the non-operative, and Drs. C. Norris and Frank Hammond the operative, methods of treatment.

Drs. J. C. Wilson, John H. Musser and A. H. Hulshizer have been appointed by the Philadelphia County Medical Society as a committee to go before the State Legislature to protest against the Antivaccination bill which is to be discussed on the 14th inst.

Charles H. Heustis, recently appointed health officer by Governor Stone, formally succeeded Dr. Benjamin Lee last week.

The total number of deaths occurring in Philadelphia for the week ending March 11th, as reported at the health office was 520, an increase of 56 over those for a corresponding period last year. The total number of new cases of contagious diseases was 501, reported as follows: diphtheria, 50 cases with 10 deaths; scarlet fever, 32 cases with 1 death; typhoid fever, 419 cases with 39 deaths.

OUR LONDON LETTER.

[From Our Special Correspondent.]

MR. SIMS WOODHEAD SUCCEEDS THE LATE PROFESSOR KANTHACK—THE LIFE OF JOHN HUNTER—DEATH OF THOMAS COOKE, THE FAMOUS "COACH" IN ANATOMY AND PHYSIOLOGY—RANDOM NOTES.

LONDON, March 3, 1899.

THE recent medical event of greatest interest was the election of G. Sims Woodhead to the Chair of Pathology in the University of Cambridge, left vacant by the untimely death of Professor Kanthack. Sims Woodhead needs no introduction to the American profession, as his work for years past has attracted wide attention. He was born in 1855 and graduated in medicine at Edinburgh University in 1878. He taught in the University for several years and in 1890 was elected Director of the Research Laboratories of the Conjoint Board of the Colleges of Physicians and Surgeons, which position he still

holds. His duties at Cambridge will be assumed in April and as yet no one has even been mentioned as his probable successor at the Embankment Laboratories.

The Board of Electors at Cambridge is much concerned over a report published in the *Times* from their Montreal correspondent to the effect that Professor Adami had declined the chair just filled. One of them has taken the trouble to write to the paper stating that the board had held no meeting and no offer or even proposition had been made to any one previous to the formal election of Professor Woodhead.

The annual Hunterian oration was delivered a short time ago at the Royal College of Surgeons by the President of the college, Sir William MacCormac. Special interest was given by the presence of the Prince of Wales, in graceful recognition of his indebtedness to the surgical profession for his rapid recovery from his recent accident. H. R. H. is a man of catholic tastes, which includes even medicine, this being the third Hunterian oration which he has listened to, while he actually holds the honorary degree of Fellow of the Royal College of Physicians. The life and career of the father of modern scientific surgery, both English and German, as Billroth cordially acknowledged, was interestingly passed in review. Born in 1728 on a little Scotch farm he came down to London, a raw country lad at the age of twenty, indifferently educated, and in thirty years had made himself not merely the first surgeon but one of the foremost scientists of the world. He gleaned his facts from every department of natural history and even of chemistry and mineralogy and recognized the unity of life and disease and their laws in all forms of organized beings. He was a tireless worker, rising at half past four to dissect till breakfast-time, seeing patients all the morning, attending to hospital work and performing operations all the afternoon, and attending to case-recording and correspondence and working over his results till midnight. No wonder that at thirty-one he broke down and developed lung-trouble, but this only drove his genius into a new field, for he secured a surgeonship in the army and spent four years abroad in active campaigning. This restored his health and enabled him to lay the foundations of his masterpiece "The Blood, Inflammation, and Gunshot Wounds," most of which is sound surgery to-day in spite of our tremendous advances. It is not generally known that Hunter's celebrated ligation-operation for aneurism was first performed upon a stag. A buck with his horns in velvet was caught, thrown, and the artery supplying one of them tied. Two weeks later circulation was re-established and on cutting down upon the artery it was found converted into a fibrous cord. Encouraged by this he operated upon a popliteal aneurism in the human subject a month or so later, with complete success.

Even bad smells have their uses. The abominable sulphurous odor of ordinary coal-gas is so great an advantage in giving prompt warning of leaks or escapes that the Committee of Experts appointed by the Local Government Board to investigate the dangers of water-gas has brought in the curious-sounding recommendation that no gas that has not a well-marked odor be permitted to be laid down in cities. It also advises that no form of water-gas should be used by any company except mixed with coal-gas in a fixed proportion to be specified in the company's permit and tested by inspectors from time to time, no gas supplied during the night to contain more than twelve per cent. of carbon monoxid. As the committee consists of Professors Haldane and Ramsay, its recommendations are about as scientifically authoritive as could be desired.

The specialization of medicine still progresses. At the last meeting of the British Medical Association a Section of Life-Insurance Examiners was held and a number of interesting papers read. Now it is announced that an International Congress of Physicians to Life Assurance Companies will be held at Brussels from September 25 to 30, 1899, to which delegates are expected from all over the world.

A unique character in the English medical world has just passed away. This is Mr. Thomas Cooke, the most celebrated "coach" in anatomy and physiology that London has ever seen. Usually the occupation of professional "crammer" for medical examinations is not regarded as the most elevated, but Mr. Cooke was so thorough in his work and so admirable in his methods that he achieved positive fame thereby. The candidate who came to his school to be prepared for an examination was not set to work on text-books, memory-lists, and "tips," but given a set of bones, a lot of dissected specimens, and a cadaver, or put at a laboratory-table and set to work. He taught by objects, not words, and his fame spread until he had a large school with a number of assistants under him. Probably no better proof could be given of the meritoriousness of his work than the fact that the very examining-body for which he prepared students, the Royal College of Surgeons, recognized his certificates of attendance as satisfactory time-credentials, a recognition not accorded to any other private school of medicine. Curiously enough America can claim a small share in his reputation for he was born in the United States but taken to Paris when a mere boy, educated there and served in several of the hospitals and finally settled in London.

Two curious cases of poisoning have just been reported. In one instance a tradesman was given some strong atropin drops for a keratitis by his physician. A few days later his whole family were prostrated with severe symptoms of atropin poisoning, due to the servant having used the drops aforesaid to flavor a pudding. They were promptly and vigorously treated and all recovered, and now the courts are endeavoring to decide whether the drops were put in accidentally or purposely. (The servant did not eat any of the pudding.) The other was a most infantile attempt by a German cook to drug his employer's family with a view to robbery by putting chloroform in their soup. Perhaps he hoped it might work while they were saying grace. As might have been expected the chloroform revealed itself with great *éclat* the moment the cover was taken off the tureen and no one was a pin the worse—except the cook who had to sleep at the police-station that night.

An excellent step has just been taken by the Local

Government Board with reference to the medical inspection of schools. An order has been issued that no child suffering from any contagious affection of the scalp, skin or eyes shall be admitted to the workhouse (poorhouse) schools of London; that all children shall be examined medically before being admitted to such schools; and that the whole school shall be submitted to a thorough medical examination at least once a month. No doubt this class of schools needs these safeguards badly enough, but they ought to be extended to every school in the country. A weekly or even daily visit of inspection, however brief, by a trained pediatrist and hygienist, who both loves and understands the needs of the young human animal would be of incalculable benefit to our schools.

Another human ostrich has been heard from. An itinerant conjuror, part of whose performance consisted of swallowing pebbles, ranging in size from that of a pigeon's egg down, was brought into Peterborough Infirmary in great distress. Whether he rattled audibly on being shaken is not stated, but an appropriate course of laxatives brought away more than sixty small stones weighing altogether nearly two pounds. The man stated that he had been swallowing pebbles for years and this was the first inconvenience he had ever suffered. Truly the human stomach is patient. Pebbles, however, would seem to be a cumulative poison, like lead and digitalis.

Our unpleasant suspicion of last week in regard to the prospects for revaccination legislation proves to be justified. Mr. Balfour announced in the House a few evenings ago, in answer to a question, that the Government had no intention of presenting any bill dealing with vaccination this session. The Committee on Bills of the British Medical Association will probably introduce a bill but there is little hope of its being reached this sesssion.

Jane White, sentenced to death for the "constructive murder" of Alice Hearsh by instrumental abortion, has been reprieved, but the final form of her sentence has not yet been announced. Both the Home Secretary and the Attorney-General have been fairly bombarded with questions as to how long this ridiculous farce of "constructive-murder" sentences, which are never intended to be carried out, is to continue. Both of them have assured the House that steps will be quickly taken to remedy this legal defect.

The influenza epidemic from which London, in common with the cities of the Continent, is suffering is rapidly increasing. At a recent function nearly one-third of the expected guests sent their regrets on account of it. So far the disease is not of a very severe type but fifty deaths were attributed to it in London last week.

Another of the curiosities of Chinese medicine has recently been unearthed. This is a powder made of salted and dried hen's brains, which is regarded as a sovereign remedy for neurasthenia and debility. This has been in use for several centuries in the Flowery Kingdom and we have only just discovered cerebrine and cardeine!

Contagious Diseases, New York City.—For the week ending March 11th, from tuberculosis, 178 cases, 202 deaths; typhoid fever, 17 cases, 6 deaths; measles, 280, 15 deaths.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

LAPAROTOMY FOR HEMORRHAGE—TONSILLITIS AND RHEUMATISM—GAS IN TUBERCULAR ABSCESSES—ENLARGEMENT OF THE SPLEEN IN MUMPS—ON THE CHOICE OF AN ANESTHETIC—CONGENITAL PYLORIC HYPERTROPHY—DEFINITE MIXTURES OF NITROUS GAS AND AIR OR OXYGEN—TREATMENT OF OZENA BY CUPRIC ELECTROLYSIS—POPULARITY OF THE PESSARY NOT WANING—RECOMMENDATIONS TO LIMIT THE SPREAD OF TUBERCULOSIS.

AT the Clinical Society, January 27th, HUTCHINSON read notes of cases in which he had performed abdominal section without external evidence of injury. A man, aged thirty-two years, was run over and became collapsed. There was abdominal tenderness and distention due to the presence of fluid. On the following day these symptoms were more marked and his temperature was 102° F. Upon opening the abdomen Hutchinson found it full of blood which he removed. No cause for the hemorrhage could be found and the wound was closed. The next day there was again some blood in the abdomen but the patient recovered. He thought that blood in such cases could give rise to trouble and ought to be removed. In a second case there were symptoms of intestinal obstruction in a pregnant woman. Nothing was found in the abdomen except two pints of pale, odorless, straw-colored fluid. The intestines were slightly congested. The origin of the fluid was not ascertained and the abdomen was closed. The following day the patient aborted and soon after died. A large quantity of the same fluid was found at autopsy and a search revealed a minute perforation of the bladder which admitted urine into the peritoneal cavity through an opening an inch above the peritoneal reflection. The perforation was presumably due to an attempt to produce abortion.

LANGTON thought that the abdomen should be opened in cases of concealed hemorrhage, not merely on account of the possible danger from the contained blood, but to protect the patient from the bad effects of internal injury.

ABRAHAM read a paper on rheumatic tonsillitis, basing his remarks upon a large number of cases of chorea, rheumatism, and cardiac disease both in adults and children observed in the last three years. Clinically five varieties of rheumatic throat affection may be distinguished: (1) Faucial erythema which often ushers in an attack of rheumatism. (2) Follicular tonsillitis. (3) Quinsy. No pathologic distinction can be made between this form and the preceding although it is noticed that when patients have repeated attacks they are almost always of the same form, alternations from one variety to the other being rare. (4) An abortive form described by Singer, in which the joint and muscular pains are vague. (5) Chronic rheumatic tonsillitis probably of gouty nature.

One-half of the cases of chorea, two-thirds of those of heart disease, and almost one-half of those of acute rheumatism gave a definite history of throat disease. Bacteriologic examination of the tonsils revealed the constant presence of streptococci and staphylococci. Sim-

ilar organisms were found in urine drawn with every precaution from the bladder. The probability of infection through the tonsils, therefore, is very strong. Many believe that the rheumatic patient is poisoned by the attenuated virus of a germ, which, when fully active, leads to pyemia. The following conclusions were offered: (1) The more common varieties of rheumatic sore-throat fall into two main categories—faucial erythema and tonsillitis proper. (2) Faucial erythema is most common in adults, and rheumatic tonsillitis in children in whom it usually assumes the follicular type, quinsy being more frequent in older subjects. (3) Faucial erythema is an initial manifestation of acute rheumatism and tonsillitis may be the actual primary lesion. (4) Many cases are now definitely on record in which endocarditis has followed a non-scarlatinal tonsillitis unaccompanied by joint pain. In numerous other instances the tonsillitis has immediately preceded an attack of arthritis or of chorea. (5) The presence of the same micro-organisms in the tonsils, joints, blood, and urine is evidence in favor of the participation of pyogenic cocci in the etiology of rheumatism.

CARR suggested that an ordinary tonsillitis might attack a rheumatic as well as any other patient. In some of the cases mentioned there was an interval of years between the sore throat and the development of rheumatism. He had not been able to convince himself that antirheumatic remedies have any curative action upon tonsillitis.

At the meeting of February 10th, SPENCER described an unusual case of tubercular cavities in the lungs, giving rise to gaseous metastatic abscesses in the right pleura, the back, and the upper part of the left thigh. The abscess in the thigh was opened first and was found to contain gas and pus having a fecal odor. It extended through the greater sacrosciatic notch into the pelvis but not to the near neighborhood of the bowel. Later the patient developed an acute effusion into the right pleural cavity, and the fluid aspirated had a fecal odor and contained pus-cells. About four months later the patient died. Both lungs were filled with tubercles and there was one large cavity. There was also extensive caries of the ribs on both sides. Colon bacilli were found in the pus.

At the Harveian Society, February 2d, EWART showed a boy who had just recovered from a mild attack of mumps on the left side. The only complication was an enlargement of the spleen which persisted for several days and gradually subsided as the parotid gland returned to its normal rize. There was no fever, nor symptoms referable to the spleen. At its maximum the spleen measured 6.5 inches horizontally and 5 inches vertically. The blood was stained for micro-organisms with negative results.

A discussion on the choice of an anesthetic at the Society of Anesthetists, January 20th, showed that the members were as far as ever from an agreement as to the relative merits of ether and chloroform under different circumstances. Whatever anesthetic is chosen should not be given hurriedly, nor by an inexperienced person. JONES said that in every case the surgeon should place the facts in hand before the anesthetist and allow him to make the choice of the anesthetic.

At the Pathological Society, February 7th, STILL reported three cases of congenital hypertrophy of the pylorus, all occurring in boys, with death in twelve to fifteen weeks after birth. The symptoms were vomiting, constipation, and increased gastric peristalsis which could be seen through the abdominal wall. In all three patients the thickened pylorus was palpable before death. In all three the thickening was chiefly muscular, and the lumen was normally patent. The lumen of the normal pylorus at birth often measures only 3.5 to 4 mm. (⅛ to 1/6 of an inch), so that one must speak with caution of slight degrees of hypertrophy. He considered the condition a congenital one, but that disturbance of function was the exciting cause. There is every reason to believe that some patients recover.

CAUTLEY, who showed specimens of the same trouble from three infants much younger than those reported by Still, expressed the opinion that the trouble was purely an intra-uterine one.

At the Royal Medical and Chirurgical Society, February 14th, HEWITT read a paper on the effects upon man of definite mixtures of nitrous oxid and air, and nitrous oxid and oxygen. Pure nitrous oxid causes deep stertorous breathing, cyanosis, and anoxemic convulsions. These may be avoided by mixing oxygen or air with the gas, but there is no fixed proportion which will best answer for all patients. The best anesthesia is obtained by commencing with a mixture of gas with two per cent. of oxygen, and increasing the latter gradually until eight or ten per cent. is employed. The next best results to these are obtained with fixed mixtures of gas and oxygen, 5, 6, or 7 per cent. for males; 7, 8, or 9 per cent. for women and children. Next after these results gas and air, 14 to 18 per cent. of the latter for men, and 18 to 22 per cent. for women and children have been proved to be best.

At the Edinburgh Medico-Chirurgical Society, February 1st, MCBRIDE described the mode of treatment of ozena by cupric electrolysis. Four of eight unselected subjects were cured and remained so for eighteen months. The others had been recently treated. Cocain was employed. With a current of 10 milliamperes a copper needle was attached to the positive pole, and inserted into the inferior or middle turbinate bone while the platinum or steel needle was inserted into the septum. There was little or no pain at the time or afterward. The good effects might be due to the copper as well as to the electricity.

TURNER said that the interest in the matter lies in the rationale of the treatment. It is not bactericidal, as the same organisms are found after treatment as before. Moreover, with treatment on one side only, both sides of the nostrils improve. Perhaps the benefit comes through an improved trophic condition. In a similar manner the serum treatment might stimulate secretion and thus cause the crusts to be thrown off.

At the Edinburgh Obstetrical Society, February 8th, BALLYNTINE read a paper on the position of the pessary in gynecologic practice. From the instrument-makers he learned that pessaries are purchased more and more, but that the demand is now practically for only two patterns,

the Smith modification of the Hodge, and the simple rubber ring containing a watch spring. The demand for curettes, especially Martin's, has been remarkable, while the popularity of caustic holders and instruments of that type has decreased.

At the Liverpool Medical Institution, February 9th, the tuberculosis committee presented a report, which was adopted, recommending the following measures: The diffusion of information concerning the disease; the arrest of tuberculosis by diminishing the sources of infection; the provision of sanatoria and special hospitals; the voluntary notification of infected houses and the disinfection of the same by the health authorities. The committee was of the opinion that the public was not yet ready for compulsory notification. Great satisfaction was expressed at the enormous decrease in tuberculosis within the past generation, and confidence was shown that with a reasonable degree of attention to the needless spread of the disease, the decrease could be continued at even a faster rate than in the past.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.—SECTION ON GENERAL MEDICINE.

Regular Meeting, Held Tuesday, February 21, 1899.

The Chairman, Dr. Louis Faugeres Bishop, announced the subject of the evening as

RABIES.

Dr. Follen Cabot demonstrated a guinea-pig and a rabbit which had been inoculated with the disease. This was the sixth day after the inoculation, and both animals showed signs of the disease, but it was the dumb or paralytic form, not the violent one. Both animals would continue in their quietude very probably until death, though sometimes there was, even in the midst of the paralytic form, sudden violent outbursts. Dr. Cabot then read a paper, entitled

RABIES AND ITS PREVENTIVE TREATMENT; AN ANALYSIS OF CASES,

which will be found on page 321.

A paper, entitled

CLINICAL CASES OF HYDROPHOBIA IN ANIMALS,

by Dr. S. R. Johnson and Professor H. D. Gill, owing to their unavoidable absence, was read by the secretary. They described the symptoms of rabies, especially in dogs. The animals usually become markedly changed in disposition. They become noticeably glum, moody, and shun the light and all companionship, or they become restless and snappy. There is a lurid glare in the eye even of animals quiet hitherto, that is very characteristic. There is a change in the animal's bark easily detected by those familiar with it. Often it becomes metallic; at times, again, is a low howl that is kept up persistently. One dog recently had been operated on for tumor six months before its attack, and had been known as an extremely quiet and patient animal. During its attack it restlessly paced the cage, biting at the bars, barking in a metallic, brassy tone almost unceasingly, never letting up in its activity. In this case the New York Board of Health had decided by inoculation experiments on other animals that true rabies was present.

In another dog the first symptoms had been a dazed look, a tendency to tear things never before noted; it had ruined a lot of lace curtains, and was copiously dribbling from the mouth. When put in a dark cellar by its owner it had gotten worse, and on being brought to the veterinary hospital it had immediately been caged. In the cage it bit through and through its own foot. This also proved on inoculation to be true rabies.

A third animal was excited and restless, and bayed like a hound, quite differently from its usual bark. This change of voice, so to say, was, as is often the case, the first suspicious sign. Then came increased nervousness and restlessness, followed by refusal to take water. These symptoms were followed by a violent stage almost characteristic of rabies.

Discussion.

Dr. R. J. Wilson spoke of the necessity and also the possibility of prophylaxis for rabies. Much has been accomplished in this matter in Paris, so that practically there has been no epidemic of cases there in recent years. If we had adequate dog laws rigidly enforced, as in Germany, it is very probable that we could extirpate the disease in America for some time, at least until the importation of fresh infective material. At present the plain duty seems to be to isolate Staten Island at least for some time, *i. e.*, not permit its dogs to wander out or permit the bringing in of dogs. There have been undoubtedly a series of cases on the island of persons having been bitten by rabid animals.

Dr. Maurice Asher of Newark, N. J., detailed his own experience with a pet dog that bit himself and several members of his family, and was proved later to be rabid. The first symptom of the dog's disorder was restlessness and a distinct, easily noticeable change in its bark. The bark was at times short, sharp, and metallic; at other times a long, drawn-out howl. It did not sleep for three nights, refused the usual food and drink, swallowed other small objects, and was noticed to eat a great deal of snow. Of its own accord it did not bite, but had bitten four people when annoyed by their commands or when they attempted to do something for it that the animal misunderstood. It developed a mania for tearing things, carpets, curtains, table-cloths, etc. Inoculation of parts of its medulla into other animals after it had been killed by chloroform proved that it had rabies. During its irritable stage it had bitten two other dogs whose owners or places of residence Dr. Asher does not know.

All the patients bitten by the animal took the Pasteur preventive treatment, and Dr. Asher described his feelings during the time. The injections are painful directly proportionate to the amount of liquid injected. The local pain is quite acute for some minutes. All in Dr. Asher's household noticed that though their appetite and sleep was not disturbed, they were much more irritable during the time of the injections than they had been before. No

local reactions followed at the site of injection except a passing induration scarce worth noting.

DR. DOUGLASS of Morristown, N. J., next described a case of hydrophobia that occurred recently in his practice. The patient, a farmer, was bitten by his own dog, and the animal was killed. He did not believe in hydrophobia, and took no precautions. After about five weeks he began to develop certain suspicious difficulty in swallowing, and an impending sense of evil came over him. After a few days he could not drink, and attempts to swallow were followed by spasm of the constrictor muscles and other muscles of deglutition. Then respiration was disturbed by spasmodic conditions. At first Dr. Douglass thought he had to deal with a case of lyssophobia, an exaggerated fear of hydrophobia that sometimes leads in people who have been exposed by animal bites to infection with rabies, to nervous symptoms that simulate true hydrophobia. But the symptoms proved steadily progressive and spasms became more general. Finally paralytic symptoms supervened, and after two days of paraplegia death occurred from heart failure. The autopsy revealed congestion in the cortex in the pons and in the floor of the fourth ventricle, also in the medulla, and in the membranes of the cord. Suspicious conditions, but not conclusive. A portion of the medulla inoculated into an animal produced true rabies.

DR. FROTHINGHAM of Boston, Pathologist to the Massachusetts State Cattle Commission, said that he has been for a long time a believer in the existence of rabies in this country in animals, and in its communicability and actual communication to man. His records show 32 cases of suspected rabies examined, 21 of which gave positive evidence of the disease. As he sees it at the laboratories of the Massachusetts Cattle Commission it is usually in the paralytic form. There are no typical post-mortem lesions of the disease as yet known. The only absolutely certain means of recognizing the disease is by the inoculation of a portion of the medulla of the suspected animal into another animal and waiting the result.

It must be remembered that there may be some other pathological condition present in an animal and yet rabies exist too. The other affection may be sufficient of itself to cause death and yet that event be precipitated by infection with rabies. Worms in the hearts of dogs sometimes simulate the symptoms of rabies though they may remain entirely latent for years.

Foreign bodies in the intestinal tract, tumors of the brain, certain parasites that gather in the external ear, may produce symptoms that will deceive a trained veterinarian. Inoculation is the only absolutely sure method of recognizing the disease; post-mortem conditions like perivascular infiltration of the substance of the brain and cord usually are found in rabies but they may be caused by any toxic condition.

The prophylaxis of rabies requires the enforcement of strict license laws for dogs. Laws that will make identification easily possible wherever the animal may be found. Suspected districts should be quarantined for three months, all strange or unclaimed animals gotten rid of, and all other animals muzzled for that length of time. If this could be done effectively, in a year we would be rid of hydrophobia in this country completely.

DR. W. H. PARK thought that the assurance that we had hydrophobia in this country would lead to proper precautions when the danger was understood. The Society for the Prevention of Cruelty to Animals had done something most inadvisable in falsely spreading the information that rabies did not exist on Staten Island. This fostering of doubt led to the failure to enforce even the already existing laws and so permitted the spread of the disease.

DR. HUDDLESTON said that the action of the Society for the Prevention of Cruelty to Animals in refusing to allow portions of the medulla to be used for inoculations seemed to him most inhuman. The mental suffering of three human beings for months because of the uncertainty had been weighed against the suffering of an animal or two for a few days and the animals' rights considered the better. He asked Dr. Cabot for the names of prominent medical men who acknowledged the existence of hydrophobia in America.

Dr. Cabot said that all the prominent pathologists to whom he had written in the matter had assured him of their certainty of its existence here, and a number of clinicians who had had experience with it did likewise. All the names he could not recall, but the list included such men as Welch, Councilman, Osler, Prudden, and other leaders of medical thought.

REVIEWS.

URIC ACID AS A FACTOR IN THE CAUSATION OF DISEASE. By ALEXANDER HAIG, M.A., M.D., F.R.C.P. Fourth edition. Philadelphia: P. Blakiston's Son & Co., 1898.

A FOURTH edition of Haig's "Uric Acid as a Factor in the Causation of Disease" was issued by the publishers twenty months after the appearance of the third edition. This of itself is proof of the great interest taken in the study of uric acid.

There are fashions in pathology as well as in millinery. The history of medicine is replete with examples of the almost universal interest of the profession in one particular subject of investigation to the exclusion of others, and of great and rapid advancement in the knowledge of the subject for the time popular.

To those acquainted with the work and the style of Haig little need be said of the fourth edition. It is a larger book. It is fuller of the data upon which he bases his conclusions. The theory is the same, and the method of presenting it is the same. To the reader there is a certain charm in the familiarity and frankness of the author which is irresistible. He is dogmatic, but he gives one all the arguments upon which he has based his dogma, and he does so in a way certainly most unconventional. The book is divided into chapters, but the first part of it need not have been, so far as the nature of the discussion is concerned. His "laws" or conclusions are given early, and appear and reappear with such frequency that there is no mistaking his meaning. That he assigns

to uric acid a most exalted influence over the destinies of man is exemplified in his new answer to that chestnutty question: "Is life worth living?" "That depends on uric acid!" he says, on page 249, and evidently misses entirely the humor of our own Holmes' answer, "That depends on the liver," for he discusses this most seriously.

That he has elucidated a pathologic law capable of almost universal application is inferred from the passage on page 142: "If my premises are good, and my deductions sound, and if uric acid influences the circulation to the extent which I have thus been led to believe that it does, it follows that uric acid really dominates the function, nutrition, and structure of the human body to an extent which has never yet been dreamed of in our philosophy, and in place of affecting the structure of a few comparatively insignificant fibrous tissues in which it is found after death, it may really direct the development, life history, and final decay and dissolution of every tissue from the most important nerve-centers and the most active glands, to the matrix of the nails and the structure of the skin and hair."

From beginning to end he is an advocate of a diet "uric-acid free," as he calls it, to counteract the effect of the ills already wrought. This "uric-acid free" diet is a diet that excludes all flesh and fish, and things that contain them or their extractives, tea, coffee, cocoa, and chocolate, because of the similarity of the alkaloids of these substances to the chemic formula for uric acid, and all acids, including beers and wines. In his own case he excludes also eggs, because he has found that, while he can not prove that they contain uric acid, he can prove that his own output of uric acid is increased when eggs are used as an article of diet. He obtains his supply of nitrogenous material from milk and cheese, in addition to ordinary vegetables and bread-stuffs.

As an eliminant of uric acid from the blood, he has this to say of lithia (page 82). "Lithia, as I have pointed out elsewhere, though said to be a beautiful solvent of uric acid in a test-tube, yet when given to the human subject by the mouth never reaches the uric acid at all, because it at once forms an insoluble compound with the phosphate of soda in the blood, thus removing from that fluid one of the natural solvents of uric acid, and diminishing its power of holding uric acid in solution." Those who have used lithia freely have found clinically that the results were not commensurate with the theoretical reputation of the drug, and that in efficient doses it is the least agreeable to the stomach of all the alkalies.

Haig's book is not a model of lucid English, of precision in the use of words, or of a scientific and orderly presentation of the subject. But it is a mine of information, and, taken at his own estimate, as a contribution to the study of this most important subject it is of great value, and should be most carefully studied by every physician.

Skiagraphic Atlas, showing the development of the bones of the wrist and hand. By John Poland, F.R.C.S. London: Smith, Elder & Co. New York: G. P. Putnam's Sons, 1898.

This atlas contains the admirable Roentgen pictures of the wrist and hand, at each year from the first to the seventeenth, taken from the author's larger work on "Traumatic Separation of the Epiphyses." A brief account of the anatomy and development of the bones of the forearm and hand is added to the descriptive notes.

Atlas of Syphilis and the Venereal Diseases, including a brief treatise on the pathology and treatment. By Professor Dr. Franz Mracek of Vienna. Authorized translation from the German. Edited by L. Bolton Bangs, M.D., Consulting Surgeon to St. Luke's Hospital, and the City Hospital, New York. Philadelphia: W. B. Saunders, 1898.

This is one of the best volumes in Lehmann's well-known series. It is far above many of the more pretentious atlases that have from time to time appeared. The plates, of which there are 71, are admirable, the coloring leaving nothing to be desired. They show all the ordinary phases of syphilitic manifestations, and of the chancroid, and also include some of the more unusual conditions, which will be specially valuable to those removed from clinical centers. Appended to the plates is a short treatise on syphilis, chancroid, and gonorrhea. For its size, this is remarkably full and accurate. The translation has been well done. We can object only to the too close imitation, in places, of the German, especially in the nomenclature of some of the lesions.

A Text-Book of Physiological Chemistry. By Olaf Hammersten. Authorized translation from the third German edition. By John A. Mandel, Professor of Inorganic Chemistry and Physics, and Adjunct Professor of Physiological Chemistry in the University and Bellevue Hospital Medical College. New York: John Wiley & Sons, 1898.

The author in his introduction bases the forces going on in the syntheses accomplished by the plant on the *vis viva* of the sun, this force being transformed "into the potential energy or chemical tension" of the substances thus produced. We find in these few words a correlation of the laws and phenomena of physics and chemistry, which enter so closely into the problems of both plant and animal life. Viewed from these broad standpoints, the processes going on in the animal being, both normal and pathological, present to us a different aspect, and their analysis in terms of general science is more comprehensive to the investigator. The admirable work of Hammersten has, as in the first edition of this work, been translated in a most painstaking manner, following the author's text and arrangement, as in the original work.

Chapter I. deals with the new developments in this science, and gives us a *résumé* of the researches along these lines during the past few years. In Chapter II. the author classifies the proteids into three large groups, simple and compound proteids and albuminoids, a most simple and admirable classification, each group of which is distinct from the other. Not too much can be said of this work, the two examples noted being only a sample of the value of the same.

This book is more than a text-book as the name implies. As a reference book, both on account of its wide

scope and the carefully selected authorities from which its facts are gleaned, it should be acceptable to all advanced workers in this field. An excellent index covering forty-pages further enhances its value.

A MANUAL OF PHYSIOLOGY, WITH PRACTICAL EXERCISES. By G. N. STEWART, M.A., D.Sc., M.D., Edinburgh, Professor of Physiology in the Western Reserve University. Third edition. Philadelphia: W. B. Saunders, 1898.

THIS new edition of Professor Stewart's Physiology contains considerable new material, and several new and very excellent plates and illustrations. The book is arranged especially as a laboratory guide, for which the practical exercises are intended. Nevertheless the text loses none of its value as a reference work, which, indeed, the exercises themselves enhance.

The chapter on metabolism, nutrition, and dietetics is up to date, and the physiology of the nervous system is interestingly expounded. The practical exercises, chemic, physical, microscopic, and anatomic, are arranged with great care and in great detail, and follow the order of the text, chapter for chapter.

THE LECTURES OF AURELIO BIANCHI ON THE PHONENDOSCOPE AND ITS PRACTICAL APPLICATION, Together with Special Articles by FELIX REGNAULT, M.D., and M. ANASTASIADES, M.D., and translated by A. GEORGE BAKER, A.M., M.D. Philadelphia: George P. Pilling & Son, 1898.

THE publication of these translations comes too late to attract but limited attention. The phonendoscope has been already thoroughly studied in America, and, for the most part abandoned as an overestimated instrument. Those, however, who are interested in the claims and demonstrations of Bianchi will find them in this book, freely illustrated by photograph, diagram, and text.

NURSING: ITS PRINCIPLES AND PRACTICE. By ISABEL ADAMS HAMPTON, late Superintendent of Nurses and Principal of the Training-School for Nurses, Johns Hopkins Hospital. Revised Edition. Illustrated. Philadelphia: W. B. Saunders, 1898.

WE have always held the belief that the nurses in our training-schools received, relatively, too little practical and too much theoretical instruction. A perusal of this work confirms this impression. The trained nurse does not need to know the signs and symptoms of pregnancy nor the differential diagnosis between the acute infectious diseases, as they are outlined in this work; she need not know anything of bacteriology or of the properties of formalin or comol. This information is simply a burden to her mind to the exclusion, sometimes, of the proper way of placing a patient in Sims' position or of properly giving a hypodermic injection. This is not only our own impression, but the burden of these statements has been repeatedly stated to us by graduate nurses who appreciate their lack of practical experience in the small details of their practice.

But, if the authoress has committed a sin in this regard, it is not fair to hold her responsible for a system which regards the nurse as a semidoctor, or, at least, as a pseudo-doctor. She has given, down to the minutest detail, all that a well-trained nurse should know. Her language is clear, concise, and pointed, and it is earnestly to be hoped that every nurse, in or out of hospital, may read and thoroughly assimilate the contents of this book. They will certainly be better practical nurses for knowing and practising much that is contained within its covers.

THERAPEUTIC HINTS.

Treatment of Diphtheria of the Nose and Throat.—In outlying districts where antitoxin is not obtainable and simple irrigation may be impracticable, local antiseptic measures become imperative. A combination of remedies is recommended by ENGLAND who, under such circumstances, has employed the following with excellent results:

℞	Trichlorid of iodin . . .	gr. lxxx
	Saccharin	gr. viii
	Boiled water	Oi.

This is used as a gargle ten times a day, diluted ten times with water. After garling a suitable quantity the following powder is blown into the nose:

℞	Powdered soziodolate of sodium .	1 part
	Sublimed sulphur	3 parts.

In addition from 15 to 40 drops of the ethereal tincture of perchlorid of iron is given four times a day.

Naphthalin in the Treatment of Tape- and Pinworms.—The following formulæ are recommended:

1. For tapeworm in adults:

℞	Naphthalini	gr. xv
	Ol. bergamii	gtt. i.

M. Sig. For one dose on an empty stomach. One ounce of castor oil is to be taken immediately afterward. —*Mirovitch.*

2. For tapeworm in children:

℞	Naphthalini	gr. ss–i
	Ol. ricini	ʒ ss
	Ol. bergamii	gtt. ii.

M. To be taken in one dose on an empty stomach.—*Mirovitch.*

3. For pinworms in adults:

℞	Naphthalini . . .	gr. lxxv–ʒ iss
	Ol. olivæ	ʒ ii–iiss.

M. Sig. For one rectal injection.—*Minerbi.*

4. For pinworms in children:

℞	Naphthalini	gr. xvi–xxiv
	Ol. olivæ	ʒ i–ii.

M. Sig. For one rectal injection.—*Minerbi.*

For Acute Cystitis.

℞	Potassii citrat.	ʒ iss
	Spts. etheris nitrosi . . .	ʒ ii
	Ext. buchu fl.	ʒ i
	Syr. simpl.	q.s.ad. ʒ iv.

M. Sig. Two teaspoonfuls every three hours.

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ORIGINAL ARTICLES.

ABSCESS OF THE LUNG, WITH CLINICAL DATA.[1]

BY HENRY L. ELSNER, M.D.,

OF SYRACUSE, N. Y.;

PROFESSOR OF THE SCIENCE AND ART OF MEDICINE AND CLINICAL MEDICINE IN THE COLLEGE OF MEDICINE, SYRACUSE UNIVERSITY.

THE following clinical histories deserve to be recorded because they exemplify the great difficulty often experienced in locating exactly one or more pus-foci in the lung; because they accentuate the importance of adhering to persisting physical signs as diagnostic aids most likely to be unfailing, in spite of repeated failure to prove that these are correctly interpreted; and, finally, because the prognosis in desperate cases of lung abscess is proved to be good, if such cases can be radically treated.

CASE I.—I had a satisfactory experience with abscess of the lung in the case of Charles L. S., the manager of a local brewery, aged thirty-four years, a temperate man, whom I first saw on February 16, 1895. He had a severe pneumonia with marked cardiac asthenia. During the period of convalescence, on the eleventh day, and four days after crisis he developed all the physical signs of pus-accumulation in the middle lobe of the right lung.

I refrain from giving in detail the history of this patient because it corresponds so closely with that of Case II., which I am about to report in full. However, I must add that the localization of the pus in the lung was exceedingly difficult. It was only found after three exploratory punctures. The lung was freely incised and drained while the patient was greatly exhausted. The incision was followed by considerable hemorrhage, but the patient made a perfect recovery, returning to his business about the end of May of the same year.

I have had occasion to examine this man repeatedly, and find that he now has a functionally active and normal lung.

CASE II.—On February 24, 1897, I was called to attend A. C. Y., aged twenty-six years, a young married man without occupation, of intemperate habits. He had been leading a riotous life, and had indulged in all imaginable excesses. He daily drank large quantities of whisky, absinthe, and brandy, and had also acquired the cocain habit. He was syphilitic, and had been repeatedly treated by myself and others for delirium tremens.

The family history shows the father to have died of angina pectoris; the mother and one sister are living and well. There is no tuberculous taint in the family.

The young man had been given to out-of-door sports, was well-nourished, and of excellent muscular development. He was of florid complexion, but his face was puffy from excessive drinking. Before the onset of his present illness he had been drinking much more than usual, owing to financial and other troubles. On February 23d he felt chilly, but had no well-defined chill. On the 24th, the day on which I saw him first, he had complained of great pain radiating through his right lung, more or less shortness of breath, and had begun to cough. It was evident that he was suffering from pleuropneumonia in its incipient stage, involving the middle and lower lobes of the right lung. His temperature was 101° F., pulse 90, respirations 37. Physical examination revealed a high-pitched percussion-note over the diseased area, exaggerated breathing, and a few friction-sounds. During the next two or three days all of the usual symptoms and physical signs of croupous pneumonia were manifest.

On February 26th the patient had delirium tremens in connection with pneumonia. The sputum was rusty; temperature, 104.8° F.; pulse, 120; respirations, 55. There was marked leucocytosis, 15,000 white blood-corpuscles in one c. mm. of blood. The patient was kept in bed with great difficulty, was continually picking at the bed-clothes, and imagined that he was to be taken away. The sputum, examined bacteriologically, showed pneumococci of Fraenkel, also abundant staphylococci. There was no marked change in the general or local conditions of the patient until March 1st, when there was a decided fall of temperature and improvement in heart strength, though the pulse continued above 100; the respirations were now 34.

The crisis was passed between the night of March 1st and the morning of the 2d. The patient was covered with profuse perspiration on the morning of the 2d. The symptoms of delirium tremens were considerably modified, but his mind was not clear. Toward the evening of March 2d the patient's mind became clearer, and he complained of intense pain on deep inspiration in the infrascapular and infra-axillary regions of the right side. These pains became so severe as to require the hypodermatic use of morphin. His temperature now was 104° F. He had a well-defined chill, the symptoms of delirium tremens were intensified, there was less expectoration, and the cough was dryer and shorter than it had been during the preceding days.

On the morning of March 3d the percussion-note over the painful regions was higher pitched than be-

[1] Read at the Ninety-third Annual Meeting of the Medical Society of the State of New York, held at Albany, January 31 and February 1 and 2, 1899.

fore. The quality became flat during the day, there were but few crepitant or subcrepitant râles, and the breathing was more decidedly amphoric than bronchial. The character of the breathing, with increasing flatness, the sudden rise of temperature, and the chill aroused the suspicion of pus-accumulation, in consequence of which a long hypodermic-needle attached to a piston-syringe was introduced as a confirmatory maneuver. I failed to find pus, much to my disappointment.

On March 4th the patient was more wildly delirious, and the percussion-note over the area which had given flatness the day before was rapidly becoming tympanitic. The breathing was not purely amphoric, but yet decidedly musical in character. The sputum was more purulent (with blood streaks) than the day before. On the morning of March 5th, his temperature continuing high, the pulse being very rapid and unsatisfactory, and the physical signs in the right lung persisting, I again introduced the exploratory needle, but failed to find pus.

The pain continued to be severe in the right lung. The general appearance of the patient was not at all reassuring; his temperature had suddenly risen to 105° F. After a severe chill on the morning of March 6th, it was evident that the pneumonic process had extended to the left lung. The percussion-note in the left interscapular region and at the left apex was abnormally high-pitched and dull, the breathing bronchial, the voice-sound markedly increased, and vocal fremitus exaggerated. There were also abundant crepitant râles. The physical signs in the right lung were not materially changed. The sputum was now more bloody, was characteristic of the second day of a croupous pneumonia, and during the next three or four days there were all of the characteristic physical signs and subjective symptoms of a croupous pneumonia involving the left apex and the lung in the left interscapular region. The leucocytosis had disappeared after the crisis on March 2d, but now there were 14,000 white blood-corpuscles in one c.mm. of blood. While the pneumonia involving the left lung continued, the symptoms of delirium tremens were controlled by the use of chloral hydrate and the hypodermatic injection of morphin. The microscopic examination of the sputum showed abundant red corpuscles, leucocytes, pneumococci, and staphylococci.

March 7th, 8th, and 9th the physical signs were not materially changed. The pneumonia of the left lung was following a typical course. The physical signs in the right lung, which led me to conclude that there was either an empyema or a lung abscess, persisted, and on each of these days, after taking every possible antiseptic precaution, the exploratory needle was used with negative result, much to my chagrin. I had almost concluded, after having made six punctures with the needle, that my efforts were not to be rewarded with success. The patient was unconscious most of the time, and was not at all annoyed by the repeated prodding to which he was subjected. On the morning of March 10th it was evident that resolution had commenced in the left lung. The pulse, however, was very feeble, averaging 120 per minute during the morning, the temperature ranging between 103 and 104° F. There had been excessive perspiration during the night. During the morning the patient had a violent chill, which was followed by profuse perspiration. These subjective symptoms prompted me to make one more attempt to localize the pus in the right lung, but again the result was negative, and as I was to leave the city for a holiday on the evening of that day, I reluctantly turned the case over to Dr. Curtin.

Toward the evening of March 10th the condition of the patient became so serious that I was asked to see him once more before leaving the city, and in company with Dr. Curtin examined him thoroughly without finding any change in the physical signs. These seemed to me so conclusive that I could not leave the city content without making a final attempt to localize the pus, and in the presence of Dr. Curtin introduced the needle once more, and in withdrawing the piston filled the syringe with a dirty, foul-smelling pus. The few instruments which I needed were hurriedly sterilized, and under cocain and methyl chlorid I opened the right pleura, making a liberal incision in the seventh intercostal space, the center of which was on a line drawn from the angle of the scapula downward. The was no pus in the pleural cavity. On introducing my index-finger into the pleural cavity I found but few adhesions of the lung to the pleura, but felt a fluctuating mass just beneath the pleura in the dependent part of the lung, which I readily opened, and gave exit to about half a pint of pus of the same character as that which had been withdrawn by the needle. As we were not supplied with gauze, I introduced a large-sized drainage-tube into the lung cavity, which was anchored to the chest-wall, thus establishing free drainage. There was slight hemorrhage on cutting into the subpleural lung tissue, which gave little trouble after the pus had been emptied.

Dr. Curtin cared for the patient during the next ten or twelve days. He remained more or less delirious, the drainage was free, there was abundant pus discharge, his temperature remained nearly normal, his pulse improved in character, there was no recurrence of chills, and the left lung gradually returned to its normal condition. The sputum was repeatedly examined for tubercle bacilli, with negative results. In about two months drainage was no longer needed, and about the end of May the wound had completely closed, the percussion-note over the original seat of the abscess was slightly higher pitched than normal, air entered to the base of the lung, the patient had no cough, had gained weight, had discontinued the use of stimulants of all kinds, and was to all appearances perfectly well. In spite of the fact that he has returned to his former intemperate habits, he has had no further lung symptoms, though he has had repeated attacks of delirium tremens.

Case III.—On September 1, 1898, I was called to treat Lupeta F., a girl, aged seven years, born of American parents in Mexico, with negative family

history, and without hereditary taint. Until her fifth year she had enjoyed excellent health, was an unusually bright and active child, but of decided nervous temperament. From the fifth year to the time of her illness she had suffered from repeated attacks of vomiting, supposed to have been due to gastro-intestinal indigestion, associated with moderate pain in the epigastrium. She was taken sick one week before I saw her, during my absence from the city, and had been attended by Dr. Van Duyn, who turned the case over to me at the time above mentioned.

The symptoms during the week preceding my first visit were rather vague, and did not justify a diagnosis. It was supposed during the first days of her illness that she was suffering from one of her usual attacks, but with more pain than before. When I first saw her it was evident that she was very ill. The pains which were present during the first days of her illness were of a severe shooting and darting nature, radiating through the lower thoracic and upper abdominal regions. Occasionally she retched and vomited, but had no cough. Her temperature had ranged between 102° and 103.5° F., her pulse was uniformly rapid, above 130, and her respiration averaged between 20 and 25. Dr. Van Duyn reported negative signs on physical examination. The symptoms on September 1st strongly resembled those of typhoid fever. There was continuous fever, more or less delirium, considerable intestinal distention, with rapid pulse and slight enlargement of the spleen.

Careful physical examination elicited an abnormal high-pitched note over the left apex. There was normal vesicular breathing. The changed percussion-note was the only physical sign to arouse suspicion. As the child had lived most of her life in Mexico we were prompted to make a blood examination, which, however, proved negative as far as hemocytozoa and Widal reaction were concerned.

September 2d the temperature reached 105° F., pulse 120 to 140, and respirations between 20 and 30; no other important symptoms. On September 3d, temperature 103° to 104° F.; later, 105° F.; pulse 130 to 140; respirations between 28 and 36. My record shows that on this day I detected a slight dulness at the base of the right lung. Otherwise there were no subjective or objective symptoms. There was no cough. September 4th, temperature remained between 101° and 104 F., respirations between 36 and 40. The changed percussion-note at the base of the right lung was positive. Flatness was now persistent from the angle of the scapula to the base of the lung, and there was weakened voice-sound and breathing.

There were sudaminæ over the entire body. The dulness at the left apex persisted without further change. On September 5th the flatness had extended higher up, there was absence of voice and breathing sounds, vocal fremitus was diminished, and the temperature remained as high as the day before. The nurse reported one large roseola on the back. Widal reaction negative; no other symptoms of typhoid.

The child's mind remained clear. A long exploring needle attached to a glass syringe was introduced with the firm belief that there was an accumulation of pus in the pleural cavity. No pus was found. On September 6th, 7th, and 8th the physical signs and general condition of the patient remained the same. The temperature remained as high as before, there was but little cough, and no expectoration; there was a marked leucocytosis, the pulse was growing more feeble, and the heart-muscle showed evidences of degeneration. On September 9th the condition of the child became alarming; the physical signs persisted. In the absence of symptoms of pneumonia, and because of the gradual increase of flatness at the base of the right lung from day to day, I decided to put the child under chloroform and again search for pus. Assisted by Dr. Jacobson, who agreed with me in my suspicion, the child was carefully examined. She took the chloroform kindly. We explored in various directions, making five or six punctures, but failed to locate the pus. This experience satisfied us that we were not dealing with an empyema, but in all probability either multiple pus-foci with infiltration of lung tissue, or acute extensive infiltrating tubercle alone. Examination of the blood, which was obtained with the exploring-needle, gave negative results.

From September 10th until September 18th two attempts were made to find pus in the lung. The symptoms grew more alarming from day to day while the physical signs persisted; the temperature averaged 104° F., pulse 140. On September 18th I recognized a small area of amphoric breathing in the infra-axillary region of the right lung; otherwise physical signs were unchanged. There was but little cough, no expectoration. On September 19th an exploratory puncture was made. The blood withdrawn was examined bacteriologically, and found to contain only a few leucocytes, no tubercle bacilli, a few staphylococci. On September 20th the temperature had reached 105.2° F., the pulse was so rapid and feeble that it could scarcely be counted, averaging between 160 and 200, and the respirations were from 40 to 60.

Drs. Jacobson and Van Duyn were called in consultation. Both examined the child carefully, and were impressed by the physical signs, which we concluded were due to one of three conditions: either complete consolidation of the lung with occlusion of a bronchus, of tuberculous or inflammatory origin, abscess of the lung, or encapsulated empyema. It was evident that the child could not long continue in her present condition. We explained to the parents the uncertainty of affording relief by surgical interference, but were agreed that an exploratory operation offered the only hope of saving the child. Accordingly, the patient was once more chloroformed, and under strict antiseptic precautions I made an incision between the seventh and eighth ribs, the center of which formed a right angle with a line drawn from the angle of the scapula, and opened the right pleural cavity, in which no pus was found. The incision was en-

larged, the ribs readily drawn apart, and the index-finger introduced. There were no adhesions of the lung to the pleura, but the lung-tissue felt hard and abnormally dry. The exploring needle was introduced into the lung to the depth of about three inches through the opening between the ribs, and we were rewarded with success, withdrawing pus. The lung was incised. There was moderate hemorrhage. The incision was enlarged with the finger, which was introduced to the depth of about three inches, when a moderate flow of pus followed. Twenty inches of iodoform gauze was packed in the lung for drainage. The wound was dressed antiseptically.

The general condition of the child was not influenced by the operation. She was desperately ill during the following two weeks. There was free drainage of pus from the lung; some days there seemed to be more than others. It seemed as if innumerable small pockets of pus found exit from time to time along the line of least resistance. The child required stimulation and careful watching during many anxious days. The physical signs commenced to improve about October 5th, the flatness gave way to dulness, gradually there was a return to normal resonance, and by Christmas the little one was able to be about the house. After three or four weeks of gauze-drainage a rubber tube was substituted. This was finally withdrawn, having been shortened from time to time as we progressed in the treatment of the case. At no time after the operation was there expectoration of blood; neither was there much cough. After Christmas there were absolutely no symptoms referable to the lung. The child gained in flesh and weight, had normal appetite, and, as her parents expressed themselves, was in every way better than at any time since her fifth birthday.

The subsequent history of this case is of intense interest. Unfortunately, after convalescence and while the child was enjoying freedom from all symptoms, about January 5, 1899, there was a recurrence of vomiting, which soon proved to be of meningeal origin. During the next few days the symptoms of basilar meningitis, with paralysis, developed, and the child died on January 16, 1899, of tubercular meningitis.

In the first two cases reported it is very evident that the lung abscesses followed pneumococcic and final staphylococcic infection. The abscesses were subpleural, such as Bushnell has recently described. Such cases are not at all rare, but I am well satisfied that in the majority of these the complication is not recognized, and the patient finally dies from exhaustion, pyemia, or sepsis, or Nature comes to the rescue, and the abscess ultimately communicates with the bronchus or with the pleural cavity. In 150 cases of pneumonia, which I recently reported, I diagnosed abscess of the lung three times, and in 750 cases reported by Sello there were eleven cases of lung abscess, which would show the complication to occur in about 1.5 per cent. of pneumonia cases.

In Case III. it is more difficult to explain satisfactorily the infection which led to the suppurative process in the right lung. The unfortunate ending of this case would strengthen the conclusion that the dulness which I detected at the left apex on my first visit was in some way related to the abscess in the opposi e ung. Possibly, there was here a central focus of latent tuberculosis to which pyogenic cocci had been added which may have been aspirated or migrated from this point through some of the many avenues of escape to the opposite lung, and multiple abscesses resulted. The subsequent history of this case proves still further that the child had been suffering since its fifth year from solitary tubercle of the brain, which was responsible beyond doubt for the repeated attacks of vomiting, and from which the general basilar meningitis ultimately spread. Th · roseola which the nurse found on the child's back during the early days of the disease was probably of cerebral origin, a true *tache cerebral.*

Cases of solitary brain tubercle are frequent, as is proven by the recent work of Bruns, who found solitary tubercle present in five of thirty-one cases of brain tumor studied by him. This pathologic condition has been confirmed by others. It has been my experience that in these cases there is not infrequently a long prodromal period during which the symptoms are vague, but if carefully studied one is made suspicious, at least, of brain disorder. If there was infiltrating tubercle associated with the abscess, the admission of light, air, and drainage were sufficient to dissipate all external evidences of its presence, for all the physical signs of disease had disappeared. Unfortunately, a post-mortem was not allowed.

It may be concluded that there are no distinctive physical signs of lung abscess, but, nevertheless, as in the cases reported, the presence of markedly changed tissue, as shown by objective symptoms referable to the lung, must lead to a strong suspicion of pus accumulation when the presence of all other lung and pleural diseases have been excluded by bacteriological and clinical methods. Indeed, what Leube says of the diagnosis of abscess of the liver is equally true of abscess of the lung. He holds that we are not to diagnose the former until we have excluded all other liver diseases. Of course, in almost all cases the abscess is secondary, and we have the preceding history to aid us. The physical signs must necessarily depend largely upon the variety of abscess, whether of bronchogenic, hematogenic, or pleurogenic origin. Recent medical literature strengthens the conclusion that the majority of patients with lung abscesses recover if they are radically treated. I can imagine no cases more des-

perate than those which I have reported, and the results certainly warrant a careful search where lung abscess is suspected.

The persistent use of the exploratory needle, with or without pleurotomy, is indicated, for in no other way can the diagnosis be corroborated. I have made many exploratory punctures—no harm has come from any of them—and I have had the satisfaction of saving many lives by the aid which this method of diagnosis has given. These explorations have led me to open freely into the pleural cavity in cases of recurring tuberculous pleurisy with the same success which has delighted the surgeon in cases of peritoneal tuberculosis. The history of Case III. would at least warrant the suspicion that superficial lung tuberculosis may ultimately prove to be favorably influenced by incision, drainage, and the admission of air and light.

THE DIAGNOSIS AND MANAGEMENT OF OCCIPITO-POSTERIOR POSITIONS IN LABOR CASES.[1]

BY CHARLES H. GLIDDEN, M.D.,
OF LITTLE FALLS, N. Y.

THE diagnosis and management of occipito-posterior positions have given me more anxiety and caused me more hard work than any other single class of cases which I have had to manage. The importance of a close study of this particular abnormal presentation has been impressed upon me after an experience of sixteen years of more or less active obstetric work, during which time I have had upward of thirty cases of persistent vertex-posterior presentation, nearly all of which required instrumental aid in delivery. The infant mortality, the damage done to the maternal soft parts, the prolonged suffering and shock to both mother and child, and the outlay of strength and skill on the part of the obstetrician in the management of these cases justify our earnest consideration of this subject.

At the end of pregnancy the cephalic end of the child presents in nearly 97 per cent. of all cases. In 75 per cent. of all head presentations the occiput points to the left side of the mother, and in 73 per cent. anteriorly. There remains, then, 25 per cent. of cases in which the occiput points to the right side of the mother, the great majority of them posteriorly. A large proportion of these right posterior presentations become right anterior by a process of rotation during the second stage of labor and are, therefore, uncomplicated. It is only those cases that remain persistently right posterior that will present unusual difficulties in management.

The diagnosis of right posterior position of the vertex is, I believe, rarely made in private practice, most physicians being content when they have learned the mere fact that the head presents. That this is very far from being a complete diagnosis in any case I abundantly proved in the earlier years of my own experience. Granted that it is important to know that the head presents at the beginning of labor, it is more important to know the relative position of the vertex to the pelvis. That it is possible to make a correct diagnosis of the presentation at the first examination in a majority of cases there can be no doubt even at the very earliest stage of labor, or, better still, before labor has actually begun. This may be done chiefly through the abdominal walls. The gynecologist becomes expert in the diagnosis of tumors by abdominal palpation, bimanual manipulation, etc. Why should not the obstetrician become equally expert in determining the position of the fetus in utero by the same methods? It is undoubtedly true that the lives of many infants might be spared if more intelligent methods of determining and correcting malpresentation were observed early in labor. It is probably also true that the number of idiots and epileptics might be greatly lessened if more scientific methods of delivery were adopted instead of the almost universal use of the obstetric forceps regardless of position or presentation and regardless of the amount of injury to the fetal head. Abdominal palpation and auscultation are practised in all lying-in asylums as a matter of routine just as much as the careful attention to the details of asepsis and the weekly examination of the urine. In a recent report of the Preston Retreat in Philadelphia Dr. Richard Norris says, "Diagnosis by abdominal palpation is highly valued and constantly practised." Of course in private practice opportunities for examination are not so great and conveniences not so many as in institutions, but if one appreciates the importance and necessity of an early diagnosis of presentation and position it is no more difficult to make these examinations than it is to examine the urine, a duty but few physicians neglect in these days.

The exact method of diagnosis by external means is described as follows by Reynolds of Harvard: "Abdominal inspection is mainly valuable as affording a hint of the existence of transverse presentations and of multiple pregnancy. . . . Palpation is the most important part of the abdominal examination. It should be performed only in the intervals between the pains provided labor has already begun, all pressure of the hands being intermitted with the appearance of each contraction. The physician standing by the patient's side facing toward the feet presses the finger-tips of each hand

[1] Read before the New York State Medical Association.

with a gradual and gentle motion downward behind the symphysis pubis in search of the fetal head, which, in cephalic presentation, is almost always to be felt in this situation as a marked transverse check to the examining hand. In this examination care should be taken to note on which side the head is most plainly perceived, since with a well-flexed head the frontal extremity is much the more easily reached; with the partially extended head but little difference is to be noticed, and in face presentations the occiput is much the more distinct. . . . The fundus should then be palpated as a further means of excluding a breech presentation. . . . In determining the position of the fetal head the hands should be placed along the sides of the uterus and should make gentle but deep pressure toward each other, that is, with the uterus and child directly between their palms in the effort to estimate the relative resistance offered by the right and left side of the uterus, the flat, firm back of the child usually presenting a resistance to pressure that is markedly greater than that of the yielding abdomen and the movable limbs."

Jewett says on the same subject: "The child's back is identified by the length and breadth of the resisting plane which is offered to the examining touch, and by absence of a sulcus between it and the fetal head. The side of the child presents a narrower plane than the back and a distinct sulcus separates it from the head. The small parts are usually felt as nodules which glide about under the touch. . . . By palpation, then, we ought to be able to determine not only the presentation but the position because the occiput must point toward that quarter of the pelvis in which the fetal back is found. Excluding those very infrequent positions, O. L. P. and O. D. A., it will be safe to say that all cases in which the back of the child points to the left side of the mother will be occipito-left-anterior, and all those in which it is found to the right side of the mother, occipito-right-posterior."

It is certainly strange that we have not more generally practised abdominal palpation as an aid in determining the presentation and position of the fetus at the beginning of labor. I have never seen it carefully undertaken by any physician and none of the older text-books contains any adequate descriptions of the method to be employed. Auscultation gives valuable evidence as to the condition of the fetus and may help one somewhat in recognizing its position. In vertex presentation the heart-sounds are heard most distinctly below the umbilicus, on the right or left side of the mother, according to the position of the back of the child. Bimanual manipulation is used chiefly in determining the degree of flexion or extension of the head and is of great importance in management, it being a valuable means of assisting flexion as well as rotation during the second stage.

Most of my cases have been in primiparæ and in these especially the careful exploration of the abdomen externally will be of much more value in determining the position than the vaginal touch. In fact very little can be learned by digital examination alone in a primipara because the soft parts are generally rigid and unyielding, and the resistance of the patient to prolonged examination at such times is very considerable. Still it may be possible after long experience and carefully educated touch to determine the position of the fetal head by noting the relative location of the large anterior and small posterior fontanels and the general direction of the sutures leading from them. But it is exceedingly difficult to satisfactorily locate either sutures or fontanels through the walls of the cervix or through the unruptured membranes, and it is well to repeat that the diagnosis of right posterior position must be made early and before the membranes are ruptured if it is expected to correct the malposition by any manipulation aside from operative interference.

The last point with reference to diagnosis of posterior position to be mentioned is one peculiarly characteristic, *viz.*, prolonged first stage. In a given case in which a woman has been in labor from four to six hours or longer with but little advancement of the head, with slight dilatation of the cervix, with irregular and imperfect contractions of the uterus, with an apparent inability on the part of the patient to make the ordinary expulsive efforts, then one may suspect a vertex-posterior position. In such a case if every means has not already been adopted to determine with accuracy the exact position of the fetal head now is the time to do so. Abdominal inspection, palpation, bimanual manipulation, and auscultation of the fetal heart should now be practised in addition to the digital search for the fontanels and sutures, the examiner being careful not to rupture the membranes.

Having determined that the condition is one of R. O. P. presentation, how shall one proceed to deliver a living child with the least amount of injury to the mother? Its successful management will depend largely upon an early diagnosis. It will be exceedingly fortunate if we have made this diagnosis some weeks prior to term, as then much may be expected from postural treatment. When the patient is placed in the knee-chest position the anterior wall and fundus of the uterus are its lowest parts, and by influence of gravity the position of the child must be somewhat changed. If its head drops away from the

pelvic brim it will then be free to rotate on its axis. This position should be assumed by the patient several times daily, as long a time as possible before labor, at least, three or four weeks. She should remain in this position several minutes each time, and then recline on her side a short time before rising, in the hope that as the child's head again settles down against the brim it may attain an anterior position. The position must be such that the abdomen does not come in contact either with the bed or with the thighs of the patient. If no examination of the patient has been made prior to the commencement of labor it is still worth while to try postural treatment. The position must now be maintained as long as possible and between pains it may be possible to aid rotation, but this is doubtful as any manipulation of the uterus externally increases the frequency and force of the contractions and so defeats the object desired. With a tractable patient, who will assume this position and remain there until rotation has taken place, one may succeed in engaging the head in the anterior position and keeping it there, the patient keeping the prone position as much as possible with this end in view.

As before stated, a good proportion of these right posterior presentations become right anterior by a natural process of rotation during the second stage of labor, but the process by which this rotation is accomplished is, unfortunately, so delicately balanced that it is always likely to fail. It is only in those cases in which the vertex remains persistently right posterior that unusual difficulties in management will be presented.

The mechanism of labor in R. O. P. positions is quite complicated, and it will be sufficient here to say that it is necessary that the fetal head should enter the pelvic brim well flexed in order that the subsequent progress may be satisfactory and that upon the amount of extension will depend the difficulties to be encountered. That is to say, the more the head is extended, the more difficult will be its passage, and the less likelihood of rotation. From the nature of things, there being a mechanical misfit between the head and the pelvis, extension is likely to take place more or less markedly during the slow passage of the head through the superior strait, and a decided molding of the head also. Therefore the principal duty of the accoucheur at this time is to make quite frequent examinations in order to mark the degree of extension and antagonize it as much as possible. It is not wise to wait until both mother and child are exhausted. Unless there is pretty prompt progress, interference will quite surely be necessary. Before deciding exactly what course to pursue, the dimensions of the pelvis should be carefully estimated, or better still, accurately measured, and also the fetal head, so far as possible. If the patient be a primipara the rigidity of the soft parts must also be considered. If there be quite a roomy pelvis and easy adaptation of the head, careful bimanual manipulation before rupture of the membranes may succeed in pushing the forehead of the child upward and foreward, freeing it from the brim, in the hope that on its re-entrance it may be better situated. After rupture of the membranes it will be well to anesthetize the patient, dilate the os sufficiently, and then introduce the hand and push the forehead upward until it touches the chest, and maintain this complete flexion by pressure upon the head through the abdominal wall until the occiput has been well forced down by the uterine contractions. These directions I have followed out carefully in quite a large number of cases, but with not very flattering success.

Three methods of delivery are now possible, *viz.*, manual rotation and immediate application of the forceps; forceps without rotation; and podalic version. In skilful hands the first method is probably under all circumstances the most satisfactory, and certainly the most scientific, but it is difficult to perform and rather than make protracted efforts at manual rotation it would be much wiser to perform version at once. It has been my fortune or misfortune to have about thirty of these persistent posterior positions to manage, and it is my belief that in the majority of cases, taking into consideration the safety of both mother and child, the forceps, carefully and skilfully handled, without protracted attempts at rotation, offers the best means of terminating these cases. The amount of traction is a matter of consideration. Only after considerable experience can the safety line in this respect be determined. Traction should only be practised during uterine contractions, and in the interval the forceps should be unlocked and the head pushed back slightly. Continued pressure of the locked forceps, or holding on to them to prevent the head from receding, should never be practised. If good progress follows quite promptly there need be no fear as to an ultimate safe delivery. If great disparity exists between the diameter of the pelvis and the fetal head, or if there be uterine inertia, or if the mother or child seems unable to endure the prolonged strain, or if the condition of the soft parts of the mother makes it probable that great damage will be done, as extensive laceration, etc., then the forceps should be removed at once and with the patient completely anesthetized podalic version should be performed. It is probably true that there is less danger of laceration in delivery with forceps in anterior positions

than in the extraction of the after-coming head in version.

In every case attempts should be made at rotation, whether the membranes have ruptured or not. If the liquor amnii has pretty well drained off, then there will be less probability of success and the forceps may now be applied without rotation. If the pelvis is fairly roomy and the fetal head not unduly large or ossified, the accoucheur will be able to bring the occiput down with the head well flexed, and keeping in mind the normal mechanism, assist in the rotation of the occiput down and to the right, and finally bring it out under the pubes through the outlet in almost a normal right anterior position. In three instances I have been able to accomplish this, thereby preventing the extensive laceration of the perineum that must surely occur when the occiput is dragged out in posterior positions.

The safety of the child will, of course, depend largely upon the length of time consumed in the delivery, the amount of pressure produced by the forceps, and the degree of adaptation between the head and the pelvis. In normal labor pressure upon the head is intermittent and the molding process a slow one. During instrumental delivery one should imitate Nature as far as possible. Unless the head rotates into an anterior position as it passes through the pelvic outlet,the pressure of the frontal and parietal bones against the pubes of the mother will be tremendous, and will likely produce fatal injury to the child's brain. If care and patience be exercised and time given for the slow molding of the head, a living child will usually be delivered. I do not believe that the risks to the child in posterior positions are much greater in skilful delivery with the forceps than in version. Five infants in my thirty cases have been still-born. Three of these were delivered with forceps and two by version. All of the others were delivered with forceps, after attempt at manual rotation. In three, as above stated, rotation took place during the second stage. In only one instance was the result bad for the mother, and this only resulted in prolonged convalescence on account of neuritis from pressure, and laceration of the cervix and peritoneum.

NASAL CATARRH IN CHILDREN; ITS CAUSE AND TREATMENT.[1]

By CLARENCE C. RICE, M.D.,
OF NEW YORK;
PROFESSOR OF RHINOLOGY AND LARYNGOLOGY IN THE POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Is it of importance to consider catarrhal diseases of the nose and throat in children as a condition widely different from that in adults? Are the pathologic conditions and the etiologic processes which produce nasal catarrh in the young different from those which we recognize as being present in older people? Nasal catarrh in children would seem to be a very prevalent disease if we include under this broad heading those many cases of mouth-breathing patients who present themselves at clinics and in private practice with the nostrils obstructed by mucus or mucopurulent secretion. It is because many practitioners seem to be in the habit of considering all these cases as types of simple nasal catarrh, and apparently do not recognize the real pathologic condition, that I believe it is wise to consider these affections somewhat more in detail. I see, as I believe we all do, many of these cases which are diagnosed as simple nasal catarrh, and which are treated with nothing more than a nasal spray, which certainly deserve other and better attention.

It seems wise in the beginning to consult the writings of those practitioners who have given special study to the general ailments of children and obtain their views in regard to nasal catarrh. Their opinions should have weight, not only because based on large experience, but because their point of view, seeing as they do children at home suffering from acute diseases, may be quite different from that of the rhinologist who sees his patients only as they come to the office. It is only within the last few years that text-books on diseases of children have treated the matter of nasal catarrh in children in more than a casual manner Either the subject has been superficially treated or else the matter would seem to be a repetition of what one might expect to find relating to the nasal catarrh of adults in works on rhinology. In two older text-books we notice that nasal catarrh is described under the chapter devoted to measles. We find the subject usually treated under the two general heads of acute and chronic; and such writers seeing, as they do, children passing through the various diseases of childhood, the eruptive fevers, most of which are accompanied by *acute* coryzas, naturally lay great stress on the importance of these in developing *chronic* nasal catarrh. We find a strong tendency, and perhaps not too strong, in such writings to lay great stress upon the importance of heredity as a predisposing cause to nasal catarrh, and the statement is common that enlargement of the faucial and nasopharyngeal tonsils is in itself strongly indicative of a scrofulous or tubercular diathesis. At first thought this would not seem to us to be true; it certainly is not borne out by our experience, but we must remember the general practitioner sees con-

[1] Read before the Section on Laryngology and Rhinology of the New York Academy of Medicine, November 23, 1898.

stantly the rachitic, scrofulous, poorly nourished little patients who pretty generally have post-nasal adenoids, whereas the stronger and more robust children, who are not ill enough to require the services of the family physician, go to the office of the nose and throat specialist. It can be definitely stated that we see a large number of children who have enlarged faucial tonsils and the post-nasal space blocked with adenoids who are the picture of health. It is true that in many instances if these children are not relieved by operation the evil effects arising from closed nostrils will show themselves in the many disastrous ways which are common to mouth-breathing children. In many text-books, too, we find the term "catarrhal diathesis" employed, but we cannot believe that this should be considered a very tangible factor, because we find catarrhal diseases present to such a large extent in children of the best physical types.

From our standpoint many of the writers on diseases of children lay altogether too much stress upon the importance of a child's tendency to scrofula, tuberculosis, or syphilis as predisposing causes to chronic nasal catarrhs, and fail to search for and discover *local nasal lesions* which are the important etiologic factors in making any transient nasal disturbance a chronic process. One can hardly dispute the writer who says that chronic rhinitis is invariably due to some fault of the general health, because it is difficult to prove that any child is as well as it might be. But in nearly all the cases of chronic nasal catarrh which we see in children we are in the habit of finding some local lesion which has made an acute catarrhal process a chronic one. The evils of overheated houses, badly ventilated rooms, and unsanitary conditions generally are emphasized in books on pediatrics, and cannot be too strongly dwelt upon. It is very possible that these causes are sufficient to lower the vitality so that the special germs which attack the nasal tissues are potent to produce catarrhal inflammations. Physicians specially interested in children's diseases believe that the exciting cause of catarrhal inflammations of the upper air-passages is, first, the involvement of the mucous surfaces during the eruptive fevers, and after that all general causes which tend to lower the vitality, while the rhinologist usually finds in some local nasal condition, if not the exciting cause of the coryza, at least a reason why it has become chronic and persistent. Both Dr. Jacobi[1] and Dr. Holt[2] speak of the various local nasal lesions in defining the causes of chronic nasal catarrh, such as polypi, adenoids, enlarged tonsils, deviated septa, etc.

We should state in the beginning that we shall have very little to say in regard to the acute coryzas in infants or in young children which precede or accompany the eruptive fevers and diphtheria. The family physician alone has the opportunity of treating this class of cases, while the office practitioner sees them only when they excite, as they very frequently do, a chronic rhinitis or some post-nasal affection. It would be of great value if the family physician would notice how often these acute coryzas do eventuate into chronic affections, and how frequently they excite the growth of lymphoid tissue in the middle and upper pharynx. These acute coryzas require treatment, but perhaps not materially different from that indicated in any acute coryza.

It may be convenient to divide catarrhal conditions of the nose in children under the heads of acute and chronic, and still farther into simple catarrhal or purulent, and again into hypertrophic and atrophic. For example, a nasal catarrh may be in type chronic atrophic with a purulent discharge, or it may be chronic hypertrophic with a simple catarrhal discharge, these names indicating the pathologic condition which is found and the character of the nasal discharge, rather, perhaps, than a well-marked disease which can always be differentiated from every other variety, because catarrhal discharges frequently become purulent for a time, and a hypertrophic process may degenerate into one of atrophy. Two other terms, which we think are convenient, not for stating the pathologic condition but for defining the cause, are idiopathic and symptomatic, the idiopathic catarrh usually being acute, such as an influenza, or such a severe coryza as accompanies the exanthemata; whereas in the symptomatic nasal catarrh the disturbance and the discharge are symptoms of some local lesion, such as tissue hypertrophy, deviations of and spurs on the septum, nasal polypi, foreign bodies, syphilitic ulcerations, and nasopharyngeal catarrh, either accompanied or unaccompanied by adenoid enlargement. We see all the time acute coryzas in children which are only symptomatic of a chronic pathological condition in the nose or pharynx. Some one has said that the frequently recurring attacks of an acute coryza or a persistent coryza in a child, would indicate a syphilitic or tubercular history. We believe that such an etiology is rare compared with the large number of cases in which acute exacerbations are due to post-nasal adenoids. We should like to state our position clearly as believing that in ninety per cent. of all cases of chronic nasal discharge occurring in children, who, as their par-

[1] Jacobi, "Therapeutics of Infancy and Childhood," p. 465, 1898.
[2] Holt, "Diseases of Infancy and Childhood," p. 432, 1897.

ents express it, constantly take cold on the slightest exposure, the nostrils being filled with a secretion of mucus and pus, the principal cause is the presence of some degree of enlargement of the nasopharyngeal tonsil which may or may not be accompanied by enlargement of the faucial tonsils. We even see nostrils blocked with discharge in the early stages of an atrophic rhinitis, in which the important constant lesion is post-nasal adenoids. We know that observers disagree as to what should be considered enlargement of the pharyngeal tonsil, but we feel that it requires only a small amount of adenoid hypertrophy to block up the nostrils, prevent drainage both forward and backward, and eventually produce a chronic nasal catarrh in young patients in whom the post-nasal space is so small and the patient too young to use what little space there is for clearing the nasal passages either by blowing the nose or forcibly drawing the secretions down into the middle pharynx. That a very small amount of adenoid tissue may be the entire cause of the mischief is frequently proved by the fact that when this little is removed and the nasal chambers are cleared, what has been called a chronic nasal catarrh disappears.

We can in a very words state all that we know in regard to purulent rhinitis in children. This disease is mentioned by a few writers, but hardly by anybody at more length than by Dr. Bosworth[1] of this city. He considers it a frequent disease in children, and one that resolves itself finally into an atrophic rhinitis. If there is any special germ which produces this disease it certainly is not known at present. The significant symptom of this, Dr. Bosworth says, is a bright yellow discharge of pus from both nostrils. I cannot believe that such a condition is common. How often do we see a bright yellow discharge of pus from both nostrils in children unless there should happen to be bilateral inflammation of the antrum or ethmoid or both? We must not confound a *unilateral* discharge of pus, which may be produced by a foreign body, syphilitic ulceration, necrosis, or empyema of some one of the sinuses, with this purulent rhinitis. We are quite willing to admit that there is frequently a semipurulent discharge in children in atrophic rhinitis, and perhaps during acute exacerbations the secretion is almost entirely pus, but this is but temporary, and the discharge soon becomes only partially purulent. I believe this type of disease should be called atrophic rhinitis from the beginning, and that this character can be recognized by the general condition of the nasal passages. I cannot believe that there exists a preceding purulent catarrh.

Bilateral empyema of the sinuses may be present for a short time after a severe and acute coryza, but its duration will be short unless the vault is filled with adenoid tissue. Some special infection may give to an acute coryza a purulent discharge for a time, but this is not chronic purulent rhinitis. There are also acute exacerbations in atrophic rhinitis when the discharge is temporarily purulent. All acute coryzas, in which variety we are most apt to see a secretion of pus, are also of the type most amenable to treatment, and the purulent discharge usually ceases when all obstructions to nasal respiration are removed and the passages cleansed. A chronic purulent rhinitis preceding and finally terminating in atrophic disease does not, I believe, occur frequently.

Let us here speak of the frequency of the various pathologic conditions which are found in children suffering from nasal catarrh, and of their relative importance. Dr. Chappell[1] of this city some time since gave a report of the various pathologic condition in 2000 cases of nasal disease in children, and they were tabulated as follows:

Adenoid enlargement, 60; enlarged faucial tonsils, 270; deviated nasal septa, 330; spurs on the septum, 150; cases of hypertrophy of the inferior turbinated, 260; cases of hypertrophy of the middle turbinated, 161; total, 1231.

We do not doubt that Dr. Chappell saw some degree of deviation of the septum in this large percentage of his cases, nor that there *appeared* to be hypertrophy of the turbinated structures in more than 420 cases (more than one-fifth of the total), but our observation does not agree at all with his in the infrequency of the existence of enlarged pharyngeal tonsil. We have not taken the pains to tabulate 2000 cases of nasal catarrh in children, but in 300 of which we have some memoranda some degree of enlargement of the third tonsil was found in ninety per cent. Dr. Chappell finds adenoid enlargement in only one-quarter of the cases of enlarged faucial tonsils. We have found enlargement of the third tonsil more commonly than that of the faucial tonsils in children. There may be some error in this argument because of the different views of observers as to what may be properly called enlargement of tonsillar tissue, but we have not been in the habit of considering enlargement of the faucial tonsils of any moment unless they were hypertrophied enough to produce some impediment to nasal respiration. Nor have we thought that it was worth while to recognize deviated septa unless they were sufficient to somewhat block the nostril or to produce irritation. There are many cases of slightly deviated septa occurring from the fifth to the tenth year which seem

[1] Bosworth, "Diseases of the Nose and Throat," vol. 1, p. 155.

[1] American Laryngological Society, February, 1889.

to me of little importance. In many of these there is congestion and temporary thickening of the nasal tissues, due not to the deviation of the septum, but to the presence of a chronic mucopurulent discharge caused by post-nasal blocking. Deviation of the septum in children is not a condition often competent to produce a chronic nasal catarrh. And the same may be said in regard to chronic hypertrophic changes in the nasal passages. Chronic hypertrophic rhinitis is a comparatively rare affection in children, and we mean by that that in very few instances of children under twelve years of age is there well-organized connective-tissue hypertrophy of the turbinated structures. It is true that when we examine the anterior portion of the nasal passages we see boggy swellings at the anterior ends of the turbinates in nostrils blocked with secretion, and if an observer is in the habit of diagnosing these as cases of "hypertrophic rhinitis" one need not go far to find them, but these apparent hypertrophies are, I believe, temporary if not neglected, and are caused by interference with the nasal circulation and impeded nasal respiration, and disappear so soon as the real cause of nasal obstruction is removed. We cannot reasonably expect to find firm, healthy, turbinated structures in a nostril impervious to the passage of air, and constantly covered with nasal discharge. The great harm in considering these cases of "hypertrophic rhinitis" is that they invite the application of the galvanocautery or mineral acid, or the use of the snare or scissors.

In regard to spurs on the sputum, we have rarely found them large enough in children under fourteen years of age to require operation. They, too, are made more prominent by the general nasal congestion incident very often to enlargement of post-nasal adenoids. I should have said that the cases of deviated septum in children under ten years of age which require attention are cases of marked traumatism. It is a question just how early enlargement of the third tonsil and mouth-breathing commence to elevate the arch of the hard palate, and so cause the nasal septum to become bent upon itself. We do not see this frequently before the tenth or twelfth year.

I have not thought it wise to take up your time in a consideration of the disease which we know in adults as nasopharyngeal catarrh, because in children this has not developed except as a symptom of enlargement of the pharyngeal tonsil, which is far more frequently the cause of nasal catarrhs in children than are deformities of the nasal septum. The reverse is true in adults. Since enlargement of lymphoid tissue, both in the upper and middle pharynx, is so common in children, it seems reasonable to believe that nasopharyngeal catarrh, with its accompanying enlargement of the pharyngeal tonsil, is a condition in children primary to anterior nasal lesions.

Disease of the accessory sinuses in children under ten years of age, if not actually rare, is not often recognized. I believe, however, that acute inflammation of the maxillary sinuses occurs more frequently than we have supposed, and that it nearly always resolves quickly without leaving a chronic condition, unless there is present persistent occlusion from some other lesion. In children it is more commonly bilateral, contrary to the rule in adults. It would be of interest to use the transillumination-test in cases of purulent discharge in children. We should naturally do this if the discharge was from one nostril. Grünwald[1] made autopsies in thirty cases of children where death was caused by diphtheria, scarlet fever, or measles, and found pus in the nasal chambers or sinuses or both in all, and chiefly in the antrum. This would not, we believe, be any strong proof that *chronic* suppuration of the sinuses was common in children, but we should think it likely that there was in such secretions germs competent to excite an atrophic rhinitis or an ozena. Grünwald further says that there is no data as to how these cases result. It would be of great interest to know whether such acute purulent inflammations of the nose and accessory sinuses are the beginning of a chronic atrophic rhinitis.

(To be continued.)

CLINICAL MEMORANDA.

REPORT OF A CASE OF SALPINGO-OOPHORECTOMY IN ACUTE PUEPERAL SEPSIS.[2]

BY HIRAM N. VINEBERG, M.D.,
OF NEW YORK.

MRS. S., aged twenty-three years, married eleven months, was delivered of a female child by Dr. ——, on October 22, 1898. The labor was normal except that the head "stuck" at the perineum. The doctor passed a couple of fingers into the rectum, hooking the chin and thus delivered the head. There was a moderate tear of the perineum which was sutured. The patient seemed to be getting on satisfactorily until the third day, when she had a temperature (oral) of 103° F. and a pulse of 106. On the fourth day her temperature was 102° F., on the fifth day, 101°, on the 6th, 99.8° F., pulse 96. On the eighth day she had a severe chill, her temperature went up to 104° F., her pulse to 120.

I saw her at 9 P.M. on that day (October 30th). Her temperature then was 102.4° F., and her pulse 108, full and strong. The tongue was coated with a white fur.

[1] Grünwald, *Die Lehre von den Naseneiterungen*, Munich, p. 3, 1896.

[2] Read before the Section on Obstetrics of the New York Academy of Medicine, December 22, 1898.

The abdomen was not distended nor sensitive to pressure. The tear in the perineum seemed healthy and was granulating. The cervix was fairly patulous, but there was no discharge, and consequently no fetid lochia. The doctor in attendance had given an intra-uterine douche at 3 P.M., but nothing had been washed away. The uterus was large, rather soft, reaching nearly to the umbilicus, and lying toward the right side of the abdomen. It was not especially sensitive to pressure.

At midnight, under full narcosis, I curetted the uterus very thoroughly, removing several small fragments from the posterior uterine wall. I could pass my finger readily into the uterus and was enabled to explore the whole of its interior up to the fundus by depressing the fundus with the other hand over the abdomen. I could feel several ridge-like elevations on the posterior wall which I ultimately succeeded in removing with the sharp curette. The uterus was then thoroughly irrigated with lysol, one per cent. While the patient was under the narcosis I made a careful bimanual examination and could not detect any exudate nor thickening of the adnexa.

October 31st (noon, twelve hours after the curettage), temperature 103⅘° F., pulse 104; 7 P.M., temperature 105⅘° F., pulse 128. Intra-uterine irrigations used every two hours by means of two large gum-elastic catheters which were left in the uterus, so that the nurse could carry out the treatment with very little disturbance to the patient. From this on the pulse and temperature rapidly fell, so that on November 1st, at 8 A.M., twelve hours later, the temperature was 102⅘° F., the pulse 110, the patient was perspiring freely, and the coating on the tongue was growing less.

November 2d, temperature ranged from 101.4° to 103.4° F.; pulse from 102 to 114.

November 3d, temperature 100.3° to 102° F.; pulse 102 to 110. Irrigations brought away considerable mucopurulent discharge from the uterus. The range of temperature and pulse remained about the same for the next three days.

November 7th (15th day of puerperium), temperature 98.3° to 99.2° F.; pulse 96 to 102. During this period the patient was given freely of stimulants, kumyss and beef-juice. Ergot was regularly administered and the bowels were moved two or three times daily. We were congratulating ourselves upon having gained the mastery over the sepsis and that our patient was out of danger, but on the following morning (November 8th, sixteenth day of the puerperium), without any appreciable reason the temperature and pulse began to go up again and the patient complained of severe pain in the right iliac region.

Now, for the first time, one could feel an elongated mass, about the thickness of the thumb, beneath the very thin abdominal wall. It seemed fixed and was exquisitely tender. The temperature had risen to 104° F. and the pulse to 140 at 4 P.M.

The time had now arrived in my opinion when a more radical course would have to be pursued as it was evident that the infection had passed beyond the uterine cavity and was traveling rapidly along the right appendage. Steps were taken to perform a laparotomy and one hour later, at 5 P.M., I opened the abdomen. The exterior of the uterus appeared normal. To the right of the uterus lay an ugly looking mass made up of the ovary and tube matted together. The ovary was double the normal size, of a dark-reddish color, edematous, and covered with almost black, angry-looking exudates. The tube presented the same dark appearance, was about the thickness of one's thumb, with the fimbriæ very much thickened and looking like a mass of unhealthy granulations. The infundibulo-pelvic ligament was very much infiltrated and reddish in color. I tied off the ovarian artery as close to the pelvic wall as possible, then rapidly excised the ovary and tube with scissors, following the excision right into the horn of the uterus.

The resulting wound was quickly closed with a looped continuous catgut suture. An opening was made through Douglas' cul-de-sac into the vagina, through which a strip of iodoform gauze was carried. Prior to this, some loose adhesions between the lower part of the uterus and rectum and posterior pelvic wall were broken up with the fingers. The vaginal gauze was loosely packed in the space occupied by these adhesions. Another strip of iodoform gauze was laid over the line of suture in the broad ligament, and the end made to pass out at about the lower two-thirds of the abdominal incision. The abdominal wound above and below this point was closed in the usual way, that is, each layer separately, catgut for the two inner layers and silkworm gut for the skin.

The patient withstood the operation fairly well, though her respiration was very rapid through the whole anesthesia. Her temperature fell to 101° F. thirty hours after the operation, but the pulse remained high, 140. It was, however, of a good quality and caused me no alarm. The patient voluntarily passed gas eighteen hours after the operation and at no time was there any evidence of peritoneal irritation. She had a natural movement of the bowels at the end of twenty-two hours.

On the 3d day after the operation the abdominal and vaginal gauze was removed and the wounds gently irrigated with saline solution.

On November 12th, four days after operation, temperature 99.4° F.; pulse 110. From this time on the patient made a gradual and steady recovery. There was considerable purulent discharge from the vaginal and abdominal openings, but the sutured portions of the abdominal incision healed by primary union.

At the present time (December 19th) both wounds are almost closed, the uterus is fairly well involuted, there is no tenderness nor exudate to be detected anywhere, and the patient has been out of bed during the past four days. She is still considerably emaciated, but her appetite and digestion are good. She is free from pain and it will not be long before she will have regained her usual weight.

This case offers many points of interest and is in line with my previous work in puerperal sepsis. It emphasizes the position I have taken, that puerperal sepsis is a surgical disease and should be treated on surgical principles. The first thing to do in a given case is to ascertain the

probable point of infection, and having come to a conclusion on this matter, the next thing to do is to attack it as one would an infected wound elsewhere. If in spite of our efforts the infection is spreading and gaining ground, then one must institute more radical measures according to the indications in each individual case. The present case forcibly illustrates the treacherous nature of puerperal sepsis. On the sixth and seventh days of the puerperium the danger-point was supposed to have been passed, the temperature and pulse being virtually normal. On the eighth day the temperature jnmped up to 104° F., and the pulse to 120. The same thing occurred on the sixteenth day, the pulse and temperature having again been normal during a period of about forty-eight hours, when, all of a sudden, the condition of the patient became alarming.

What would have happened if at this stage the abdomen had not been opened and the highly affected tube and ovary had not been removed? Various answers from an academic standpoint might be given. It might be stated that the infection for some unknown reason, would not have traveled any further, but would have been arrested at the pelvic attachment of the infundibulopelvic ligament; that adhesions would have formed about the diseased tube and ovary and that the woman would have recovered simply with a damaged tube and ovary. But a more trustworthy answer is to be found in an almost identical case under observation at the Basel clinic,[1] in which the alternative above referred to was followed. On the twenty-second day of the puerperium, after several periods of apparent quiescence, the infection evidently extended from the uterus to the right broad ligament. Instead of opening the abdomen the uterus was subjected to permanent irrigations and the patient to cold packs and cold douches, etc., with the result that death occurred six days later, *i. e.*, on the twenty-eighth day of the puerperium. The autopsy revealed purulent peritonitis, and suppurative thrombosis of the pelvic veins, secondary to suppuration of the thrombi at the placental site. On the fourteenth day of the puerperium the patient was subjected to a curettage and the uterine discharge was examined bacteriologically. No streptococci were found. On the twenty-second day the uterine discharge was again examined and this time streptococci were detected.

The case reported above bears out some points I tried to bring out in my paper on "Hysterectomy for Acute Puerperal Septic Metritis."[2]

1. That a bacteriological examination of the uterine discharge is not always trustworthy even in expert hands, and that when we place more reliance upon it than upon our clinical observation our patients' welfare is likely to suffer.

2. That a so-called sapremia may imperceptibly pass into a virulent, and rapidly fatal sepsis, and that a diagnosis of sapremia may often lull us into a false sense of security and permit the opportune moment to slip by when we might save our patient by surgical interference.

[1] Albert de Pourtales, *Archiv f. Gynäkologie*, Bd. lvii, Heft. 1.
[2] *New York Medical Journal*, April 2, 1898.

3. The mistaken conception that acute puerperal septicemia kills before the tenth day, as was asserted by one of my critics when I presented a report of my second case of abdominal hysterectomy for acute puerperal sepsis at a meeting of this section on February 24, 1898. It was stated in the discussion that the patients either die before the sixth or ninth day, or they get well without any radical procedure. In the six fatal cases reported by Pourtales [1] one patient died on the twenty-eighth day (the one above quoted), one on the ninth day, one on the seventh day, one on the twenty-fourth day, and one after the lapse of three months.

REPORT OF THREE CASES OF POST-TYPHOID SURGICAL LESIONS.

BY F. E. BUNTS, M.D.,
OF CLEVELAND, OHIO.

CASE I.—J. W. C., aged thirty-six years, a member of Battery A, First Ohio Volunteer Artillery. In 1891 he had a severe attack of typhoid fever lasting ten weeks. After his recovery his health remained excellent up to the time of his enlistment at the breaking out of the late war. He was encamped at Camp Thomas, at Chickamauga Park, until August 5, 1898. During this time he was not on the sick-list although he was in poor health from about August 1st. From Camp Thomas he went with his regiment to Camp Bushnell at Columbus, Ohio, arriving there on August 6th, and the next day, August 7th, reported at the hospital suffering from severe headache and fever. The following day his temperature rose to 103° F. and he remained on the sick-list until he reached home on August 9th, when he was obliged to go to bed and was under treatment about three weeks suffering from what was diagnosed by his physician as typhomalarial fever. His convalescence was rapid and in three weeks from the time he went to bed he was up and dressed and a few days later began to attend to his business as a building contractor. No symptoms developed until October 25th, when he noticed a dull pain in his left forearm. This continued slowly to increase in severity, and as swelling began to make its appearance he reported to me on November 9th for treatment for what he considered rheumatism. Believing that the case was one of periostitis following typhoid I put the part at rest and applied hot fomentations. The swelling increased gradually until November 16th, the pain remaining severe. On this date, under cocain, I made an incision into the forearm down to the radius, expecting to evacuate pus. I did not succeed in getting any, and feeling positive that it must be present, either subperiosteally or within the bone, I sent him to the hospital, and the next morning upon operating found the pus located about three-quarters of an inch from my point of entrance and evidently of subperiosteal origin. The bone was found denuded of periosteum and bathed in pus. It was considerably roughened, yet no evidence of osteomyelitis was present. The abscess was evacuated, the roughened bone chiseled and curetted, and the abscess-cavity cleaned of necrotic shreds of tissue,

[1] *Loc. cit.*

packed with gauze, and closed with a few sutures. The subsequent history showed nothing of interest, repair taking place promptly without further suppuration. A microscopic and bacteriologic examination of the pus made in the Pathological Laboratory of the Western Reserve Medical College, by Dr. W. T. Howard, showed it to contain an almost pure culture of the typhoid bacillus.

Case II.—W. C., aged thirty-eight years, private in B Troop, First Ohio Volunteer Cavalry, was taken sick with typhoid and admitted to the Regimental Hospital, at Lakeland, Fla., August 12, 1898. He had never previously had an attack of typhoid fever. The fever pursued a moderately severe course and on September 15th he was sent home to Ohio on sick furlough. On his arrival at home he was practically confined to his bed until October 12th. On the 13th of October he was suddenly attacked by a severe chill and great prostration. He was immediately sent to the hospital and was confined to his bed for several weeks with what was diagnosed by his attending physicians as a relapse of the typhoid. On September 29th, fourteen days after his discharge from the hospital at Lakeland he noticed a swelling in the left testicle. The pain was moderately severe, increasing as the swelling increased, and at the time of his admission to the hospital in Cleveland he suffered considerable pain, which, however, was relieved by rest, elevation, and hot applications. The relapse was severe and his condition most critical. However, convalescence eventually ensued, but the orchitis remained. No history of gonorrheal or syphilitic infection could be elicited and the orchitis was diagnosed to be a sequel of typhoid fever.

Strapping was resorted to in the hopes of reducing the swelling but was abandoned at the end of a week, no improvement having taken place. After this symptoms of softening and breaking down of the organ became manifest and it was decided to remove the testicle. This was done November 16, 1898, the only item of interest connected with the operation being that the pulse-rate during the entire operation ranged from 160 to 180, ether being the anesthetic given. The testicle was found entirely disorganized and a considerable amount of pus was also present. The specimen was sent to the Pathological Laboratory of the Western Reserve Medical College and examined by Dr. Howard, who reported that it contained a practically pure culture of the typhoid bacillus.

Case III.—T. F., aged twenty-eight years, a laborer. Patient first entered the Erie County Hospital March 22, 1897, suffering from typhoid fever. The history regarding the onset of the bone-lesion is not very accurate except that the leg had been painful and swollen for some time. The first operation for diseased bone was performed on the right tibia June 1, 1897. On July 7th a second operation was performed, and on July 28th when he entered the Charity Hospital he had two fistulous openings over the anterior aspect of the right tibia at about the junction of the lower and middle third. He was operated upon August 2d and a detached fragment one and one-half inches long of necrosed bone removed. The surrounding bone was thoroughly chiseled and curetted to remove diseased portions, but the marrow of the bone was not found to be in any way involved, the disease being apparently an ostitis following periostitis. No bacteriologic examination was made. The patient did not give a history of any injury which might have induced periostitis.

These three cases are illustrative of the fact that post-typhoid lesions occur not infrequently in adults, that the length of time intervening between the onset of the original disease and the full development of the subsequent surgical lesion is often very considerable, and that it is therefore incumbent upon the medical adviser to caution his patient about these possibilities and against unnecessary or undue exposure to injury. While in none of the three cases here reported was there a history of an injury, yet it is not improbable that a slight or neglected injury might have been the determining factor in the local activity of the typhoid bacillus and the development of suppuration.

The ages of these patients were respectively thirty-six years, thirty-eight years, and twenty-eight years, and the periods of development of pronounced symptoms, dating from the beginning of typhoid fever were 79 days, 48 days, and approximately 57 days. Of course these figures are inexact but they are sufficiently accurate to show at what a late date the typhoid bacillus is still present and sufficiently active to determine, upon very slight provocation, a suppurative lesion.

MEDICAL PROGRESS.

Differential Diagnosis between Syphilis in the Throat and Diphtheria.—Somers (*Phila. Med. Jour.*, January 28, 1899) says that in syphilis of the pharynx simulating diphtheria the temperature is not as high, the patches on the pharynx and tonsil are not as elevated, the adjacent tissues are not so violently inflamed and there is usually some concomitant symptom such as the dermal eruption. In a number of cases of diphtheria there is a somewhat symmetric arrangement of the membrane; but this is more marked in syphilis, and the "Dutch-garden" symmetry of syphilitic ulcers is rarely simulated. The crucial test is the presence of the diphtheria bacillus, but the history of the case, and the amount of acute constitutional symptoms together with the course of the disease, must be taken into account.

Poisoning by Camphor.—Berkholz (*Petersburger Med. Wochenschr.*, No. 51, 1898) describes the case of a young woman who took about 15 grams (one-half ounce) of camphor suspended in water, probably in order to produce an abortion. There was no immediate effect, but two hours later a violent headache developed, with vomiting, convulsions and later coma. The pulse was full and strong, and respiration rapid. Excitement increased until the patient became unconscious. The stomach was washed out several times and chloral and bromid were administered. After several days' illness she entirely recovered. The fatal dose of camphor is 2.5 to 7 grams (half a dram to a dram and a half) and the writer attributed the recovery of his patient to the fact that she had eaten a hearty dinner composed largely of hydrocarbons, a

short time after taking the poison. By this means there was formed in the intestine glyco-camphoric acid which is not poisonous. He recommends in an overdose of camphor, therefore, that the patient be given large doses of sugar as an antidote.

The Secret of Longevity.—A writer in the *Lancet*, January 21, 1899, says that no one has come nearer than George Humphrey to an accurate conception of the secret of longevity. The total number of aged persons whose life-history was examined by him was close on 1000, 74 of whom were centenarians. The conclusions arrived at by him were briefly these: (1) That the primary factor in a long life consists in an inherited durability; the vital machinery is wound up to go for a given period and but for accidents or in spite of them it will go till the time appointed. (2) That an important part of the primary inheritance is good digestive and nutritive power. (3) That temperance is necessary in the use of the nutritive functions both in eating and in drinking and in regard to all kinds of food and drink. (4) That an energetic temperament and active habits conduce to longevity.

Inoculation against the Plague.—A correspondent of the *Lancet* recently wrote regarding the plague in a town called Gaday as follows: "Inoculation seems to be proceeding merrily enough, and the inoculating officer who is one of the English special plague medical officers is much occupied, 500, 600 or even 700 people being often inoculated in one day. To see the crowds waiting and struggling to pass the barrier is a strange sight. Old men and women, young children, and mothers with babes in their arms form a daily crowd numbered by hundreds who wait for hours to get their chance of the day's inoculation and many go away disappointed after the doctor and staff have been fairly tired out. The example of Hubli has apparently given the people confidence and they are now eager to bring their 2 annas to go through the operation. It is unfortunate, however, to find that many of the inoculated get plague—even those who have been inoculated twice—and several of them have died. Many cases of suppuration have also followed inoculation notwithstanding that great care is exercised in all the details of the operation. That it affords protection has now been proved, and it has been observed that plague patients who have been previously inoculated are not so subject to delirium and mental obfuscation, nor do the buboes develop so readily or so frequently go on to softening. The fever generally is not so severe and the type of the disease is less virulent. In uninoculated cases the disease continues with unabated intensity."

Typhoid Fever in Infancy.—MORSE and THAYER (*Boston Med. and Surg. Jour.*, January 12, 1899) wished to learn whether typhoid fever in infancy is more common than is ordinarily supposed. The mildness of the symptoms, and their resemblance to those of the ordinary gastro-intestinal disturbances of infancy might account for its not being recognized. They applied Widal's test in the case of 50 babies under two years of age, with the following clinical diagnosis: simple diarrhea, 2 cases; fermental diarrhea, 45 cases; ileo-colitis, 3 cases. In only one case was a positive serum reaction obtained, and a test of the blood of the mother of this patient gave a positive serum reaction in fifteen minutes. She had a slow fever ten years before, but had not been ill since. The child had been fed from the fourth month on raw milk and water, and was taken sick when seven months old with greenish diarrhea and vomiting. The treatment began four days after the beginning of the attack, and in nine days the child was entirely well. Under these circumstances it seemed probable that this case was not one of typhoid fever. The authors therefore endorsed the commonly accepted view that typhoid fever is an unusual disease in infancy.

THERAPEUTIC NOTES.

Six Thousand Fractures Treated by Extension.—LOEW (*Bull. gen. de Ther.*, December 23, 1898) says that Bardenhauer was the first surgeon who was able to successfully surmount the difficulties of extension in the treatment of fractures. During the last ten years more than six thousand cases of fracture have been treated in the city hospital of Cologne on the principles he laid down. The theory of the method is to obtain as extensive a surface as possible for the attachment of the adhesive plaster. For example, in a fracture of the tibia, a broad strip of adhesive plaster is placed along the outer side of the leg from a hand's breadth below the knee to the ankle, and continued under the sole of the foot in a loop. It is then carried up the inner side of the leg, as high as on the other side. These side straps are held still more firmly in position by circular ones. A short piece of board is placed in the loop below the sole, and to a cord around this a weight of four to eight pounds is hung to give the required extension. The foot of the bed is elevated eight or twelve inches to keep the patient from slipping. In certain cases strips of plaster and weights are also applied to counteract rotation. At the end of ten days the bandages are changed throughout. The advantages of this method of treatment are that the site of fracture is exposed to view, and contusions can be watched and the dressing changed if necessary; that the fragments of the broken bone are exactly coapted, and false joints are avoided. The results of this method of treatment are marvelous. A short treatment and perfect results are the rule. A false joint is never seen. In ten days the union is often so far advanced that it is possible to remove all apparatus and to place the limb in a simple trough.

A Good Prescription in Case of Tapeworm.—CHAMBERLIN (*Bull. gen. de Therap.*, December 23, 1898) begins the treatment for tapeworm by a dose of castor oil or sulphate of magnesia, and as soon as this remedy has acted upon the bowels, he gives each hour, a teaspoonful of the following mixture:

℞ Spt. chloroformi . . . . . ℥ij
Ess. terebinth. rect. } aa . . ℥j
Ext. filicis ether }
Glycerini . . . . . ℥iv. M.

If the patient is a child a proportionately smaller dose is to be given. Thus for a child of two years the correct prescription would be

℞ Spt. chloroformi
Ess. terebinth. rect. } aa. . . 3 ss
Ext. filicis malis
Glycerini . . . . . 3 iv.

M. Sig. One teaspoonful every hour.

Applications of Eucain in the Esophagus and in the Rectum.—BAYER (*Centralbl. f. Inner. Med.*, January 7, 1899) anesthetizes the pharynx and upper portion of the esophagus with a 3-per-cent. solution of eucain before passing the esophageal tube. In two minutes the parts are absolutely insensible. In cases of carcinoma in which the act of swallowing even of fluids is well nigh impossible an application of eucain will enable the patient to swallow even solid food without difficulty. The eucain in such a case is applied by means of a syringe, and the patient easily learns to make the application. There is no danger from poisoning. Applied in the same strength on cotton eucain is the best agent for preparing the rectum for dilatation or the introduction of instruments, removing absolutely all pain. For obstinate tenesmus in connection with carcinoma the injection of 10 to 30 drops of the same solution has proved most satisfactory. There follows a feeling of comfort in the lowest section of the bowel which lasts sometimes for hours.

Applications of Guaiacol for Serous Pleurisy.—PROZOROVSKY (*La Presse Med.*, January 4, 1899) treated eleven patients suffering from serous pleurisy by painting the skin overlying the lesion twice daily with a mixture of guaiacol and tincture of iodin, 1 part to 4. The skin was then covered with an impermeable substance, and the patient was given either codein or Dover's powder. In every case the absorption of the exudate was more rapid than could have been expected from any other method of treatment. There was no constitutional disturbance and no cutaneous irritation unless it was found necessary to make more than six or seven applications. Five or six were usually sufficient to cause the complete disappearance of the fluid. There was a fall in temperature after each application, followed by a rise, so that the crest of the thermic curve came out two hours later. The author believes that guaiacol acts in two ways: by means of the cutaneous nerves it affects the thermic and vasomotor centers and so promotes absorption. By combining with morbid products circulating in the blood it keeps them from acting injuriously upon the pleura.

Efficacy of Guaiacol in Acute Epididymitis.—PERRY (*Medical Record*, January 7, 1899) reports twenty cases of acute epididymitis treated with guaiacol with success. He paints the pure guaiacol over the cord in the inguinal canal, and a mixture of one part of guaiacol and two parts of glycerin over the cord and epididymis in the scrotum. Pain is relieved in a few minutes, but returns in six or eight hours with less severity. On the first day, therefore, two or three applications may be necessary; afterward for four or five days one or two only. Most cases can be cured in four or six days, and some, if seen early, may be aborted. Most of the patients treated by him were gonorrheal. In some instances the pain which had existed in such a severe form for several days as to prevent sleep was so quickly removed that in an hour the patient was sleeping soundly. In a few cases the treatment was followed by that of oleate of mercury to facilitate the absorption of the exudate.

Care of an Infant's Teeth.—CARRIERE (*Rev. de Therap. Med.*, January 1, 1899) insists on the importance of looking after the teeth from the time a child is born. The mouth should be wiped out with cotton wet with Vichy-water after each nursing. The gums should be rubbed with the finger wet in the following solution in order to prevent pruritus and to relieve the pain of dentition:

℞ Cocain . . . . . gr. ij
Saccharin . . . . gr. j
Glycerin . . . . oz. j
Tinct. vanillæ . . . gtt. xxx.

If the child is much irritated by the eruption of the teeth 5 grains of bromid may be given in the morning, and at night an injection containing 4 grains of chloral and 5 drops each of tincture of valerian and tincture of musk.

The first teeth are very apt to decay about the third year. To prevent this the mouth should be cleaned in the morning with a little soap in order to counteract the acids of the food and of fermentation. At this age the teeth should be regularly brushed with a soft brush dipped in an antiseptic solution. People often think it is useless to have the milk teeth filled; but this is a mistake for the early loss of a first tooth produces in its place a scar tissue so that the second tooth has more difficulty in breaking through. This is the commonest cause of the deviation of the second teeth.

For Sycosis Barbæ.—Treatment by galvanocautery is advised for severe cases by BLOCBAUM. The needle is inserted from $\frac{1}{12}$ to $\frac{1}{9}$ of an inch into the pus-containing follicles, and the current then turned on. The needle is pulled out while red hot. About 60 follicles are thus treated at a sitting, ice-compresses then being applied for two hours, and the parts finally powdered with the following:

℞ Zinci oxidi
Ac. borici } aa . . . . parts i
Talci . . . . . parts ii.

M. Sig. External use.

In the morning the parts are washed with soap and water, dried with gauze, and repowdered. Treatment is given daily until all the affected follicles cicatrize. When the scabs come off, daily shaving is advised, also friction to detach loose hairs and empty the gland tubules.

The pain of this method only slightly exceeds that of epilation, and if necessary local anesthesia can be resorted to.

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SATURDAY, MARCH 25, 1899.

THE WHEAT PROBLEM ONCE MORE.

WHEN Sir William Crookes, the president of the British Association for the Advancement of Science, saw fit in his presidential address, before that distinguished scientific body last summer, to refer to the possibility of there not being enough wheat to go around for the next generation, his declaration naturally attracted a great deal of attention. American commentators on the subject generally scoffed at the idea of a paucity of wheat so soon in the world's history. More than one of our medical contemporaries took pains to demonstrate to their readers that the idea was preposterous. Some of the most amusingly exaggerated claims were made and extensively copied as to the wheat-bearing capacity of our great West. Among others, for instance, that the State of Idaho alone could supply, if there was a demand for it at good prices, 400,000,000 bushels of wheat.

The statistician of the United States Department of Agriculture reviews the discussion in the current number of the *North American Review*, and gives what he considers conservative figures in the matter. All the acreage available for wheat in the United States, including land that may under the stimulus of better prices be reclaimed from aridity by irrigation, will not suffice in 1931 to supply the demands of even our own estimated population at that time, 130,000,000. The United States are at present the greatest exporters of wheat in the world, but in thirty-two years, *i. e.*, in the next generation there will be a deficiency of 50,000,000 of acres of the land necessary to supply our own population with wheat.

It may not be amiss then to bear in mind Sir William Crookes' prophecy that we shall have to learn in the very near future to consume more leguminous products in order to obtain our supply of nitrogenous material, and to unlearn certain present-day wasteful methods in the use and preparation of wheat-food products as well as certain unscientific methods in the cultivation of the cereal.

NEO-MALTHUSIANISM AND THE DOCTORS.

UNDER the above title Doctor Minime discusses in the *Journal de médicine de Paris* the continued diminution in the birth-rate of France. In 1897 there were 859,107 births, a decrease of 6479 from the preceding year, when the total was also disquieting to the statisticians. This total is the smallest ever recorded in that country since the beginning of the century, except in 1871, and during the epidemic of the grip. Fourier says the decrease is due to syphilis, Lancereaux to alcoholism, Roussel to neglect of young infants, but the writer of the article alluded to says, it is because the French are "past masters in the art of *coitus frustratus*, or *moucher la chandelle*."

The new Malthusian religion long adopted by the Faubourg Saint-Germain, is gradually numbering its converts among the bourgeoises, the Faubourg Saint-Antoine and even the rural districts. "It would ill become the physicians," says Doctor Minime, "to make an outcry against restrictive practices. A Malthusian has had the patience to conduct an inquest upon the Parisian medical body; do you know how many children he finds per family? *One and a quarter!*" In defense of this position he goes on to say:

I may cite myself as an example. I am in fact only a demi-Malthusian for I have three children. It goes without saying that I would have had twenty if I had not followed restrictive measures which the church condemns. For ten years I occupied an

apartment which cost four thousand francs a year. Now that the children are large and can no longer sleep in the drawers of a commode, I have to give to each of them a chamber and the rent of the apartment has grown to eight thousand francs.

But that is not all. Under the fallacious pretext that I have children the government doubled my taxes so that they are now 1600 francs a year. It is necessary to add to these figures 5600 francs for the care and the education of the children. Is that not a condition which would justify the most extreme Malthusianism? Of course one loves his country and is ready to die for her, but not to die—of hunger.

Oh, legislators, my friends; you especially, numerous physicians and surgeons, who sit in our parliaments(you are more than one hundred) study this question and do not increase our taxes in a direct ratio to the number of our children. The question is simple enough. He who has no children should pay more than he who has one. Let the unmarried man who has his sexual pleasure at the expense of the community, who takes our women and covers France with bastards at the expense of society bear the heavier burden. If he is to be tolerated, let him at least pay the double tax.

MALARIA AND TYPHOID.

In a recent issue a medical correspondent in Philadelphia attempted to blunt the edge of certain remarks of ours with regard to the awful condition of that city, anent, the typhoid epidemic there, by quoting the statistics for malaria and typhoid in New York and Brooklyn during the six years preceding 1890. Our medical correspondent, although manipulating statistics for the benefit of Philadelphia's showing disclaimed any idea of defending Philadelphia, and yet there seemed to be no other motive. In publishing his letter we absolutely refused to be diverted from the important point at issue, *viz.:* the mortality of typhoid *now* in Philadelphia. And without disclosing our correspondent's name, as he did not seem to wish it, we stated forcibly our opinion of medical defenders of Philadelphia in the matter of typhoid. Unfortunately for our correspondent his haste to have the defence of his town, or at least something that would divert attention from the present alarming condition there, published, led him to send his letter to a Philadelphia medical journal. Even that editor found his statistics too ancient and so they were brought down to something more than three years from date.

Our Philadelphia contemporary now thinks that the objection raised deserves a serious answer. That answer was given when we absolutely refused to entertain the idea of wiping out all malaria mortality in New York and Brooklyn in order to add it to the typhoid column, so that Philadelphia's typhoid statistics might not seem so *very* bad. This manipulation by our correspondent was an unwarranted trifling with statistics and deserved the severest condemnation. Statistics cease to have any meaning if altered in this wholesale fashion on a mere assumption.

Either the malaria reported by the New York and Brooklyn physicians was malaria or the profession of those cities must consider themselves accused by our correspondent of inability on a wholesale scale to diagnose malaria or else wilfully to have entered into a conspiracy (perhaps for the sole purpose of injuring Philadelphia) to criminally suppress facts.

That the malaria mortality for the two cities should be much greater than that of Philadelphia is not surprising. New York undoubtedly has endemic malaria in the low-lying lands along the Harlem and near both rivers, the East and North. New York always contains a large contingent of New Jersey's population and has perennially a numerous resident Southern colony. As the great entrepot of the country it always contains a large number of people from tropical countries besides a small army of sailors. Brooklyn has the questionable advantage of being situated on Long Island. Need we say more to obtain for it the privilege of a respectable mortality from malaria?

Now as to the statistics of the next six years from 1890 to 1896: The New York mortality from malaria drops from 24.62 to 7.87, but the mortality from typhoid does not ascend proportionately but drops from 24.27 to 19.72. In Brooklyn there has been a still greater fall in the mortality from typhoid despite a very large reduction in the malarial mortality. The mortality from malaria remains high but that is due to endemic malaria in a number of low lying districts. We doubt if any more mistakes of diagnosis as between malaria and typhoid are made in Brooklyn than even in Philadelphia.

All these considerations are elementary. They are obvious to any one who knows anything of the situation. It is to be expected that medical men and especially medical editors shall know something of such matters before writing about them and that

they shall not ignore them in order to malign, for obvious personal motives, a large body of professional brethren by the assumption that many of them frequently and persistently mistake typhoid fever for malaria.

But this is only "by the way." We are sincerely interested in seeing something done to reduce the awful mortality from typhoid fever in Philadelphia. More than 400 deaths in less than twelve weeks! Here is what should occupy the attention of physicians and medical journals in Philadelphia, not considerations and discussions calculated to divert the attention from these gruesome figures. Our first editorial on the subject was not meant to smirch Philadelphia's fair name, the Lord knows that is impossible in the matter of typhoid, but to arouse, if possible, lethargic burghers to a sense of civic duty. We have some evidence that it hurt. That was its intent. Meantime we await with impatience the opportunity to announce that something, *any thing* is being done to remedy the present dreadful state of affairs.

THE BACTERIOLGY OF DRINKING-WATER.

WE publish this week an abstract of Dr. Edward R. Dunham's paper on this subject read before the Harvard Medical Society of this city. The subject, it is needless to say, is an extremely important one, and, unfortunately, one with which, despite long years of most arduous and faithful work, bacteriologists have been able to accomplish very little that is of practical value. We have always seemed on the point of having some sure and definite bacteriologic data for judging as to the potability of a given water when new observations have shown their inconclusiveness. At present bacteriology practically assists very little our efforts to decide whether ordinary water is safe for drinking purposes or not. A good many bacteriologic examinations of Philadelphia water have been made in these last few years and yet we believe no definite conclusion as to the contamination of the water has been reached. That typhoid bacilli have been in the water-supply of that city most of the time during these years, a simple reference to the health statistics of the city will show. The fault, however, lies not with the observers but with the present inadequate bacteriologic methods.

Most of the data considered of value now in judging of drinking-water comes from chemistry. As was remarked in the discussion of Dr. Dunham's paper, a slight increase in the nitrites present in Croton water sends a spasm of anxiety through the authorities of the health department. This determination of the amount of organic matter present is the best criterion of the potability of water that sanitary science can at present give us. How liable to error it is, however, may be judged from a fact reported not long ago from England. A sample of reasonably good water was deliberately sown with typhoid bacilli and sent for examination to a well-known chemist of great experience in the examination of water for sanitary purposes. He pronounced it wholesome and safely potable at a time when a control sample of the same water was demonstrated to contain virulent typhoid bacilli.

In this dubious state of sanitary science with regard to drinking-water we welcome cordially Dr. Dunham's contribution to the subject. We consider that the conclusions he has reached by his investigations are the result of original work of a high order and that some of the methods he suggests will prove of great service in regaining once more for bacteriology the place it should hold as the mistress of sanitary science, especially in the department of drinking-water. The scheme of following the water in its cycle from the time it rises as vapor till it flows back to the sea and showing the sources and kinds of contamination it is liable to, with the modes of their determination, breathes a true scientific spirit. The methods of detecting the presence of colon bacilli and putrefactive bacteria deserve thorough practical trial for they seem to furnish the reliable delicate tests of the presence of sewage contamination which our present coarser chemical methods almost entirely miss. The work on the subject has been excellently done and the details have been elaborated with a patience that is worthy of the highest commendation.

EPITHELIAL REGENERATION, EPITHELIAL OVERGROWTH AND CANCER.

ONE day last year Professor Virchow asked some Americans who were working in his laboratory in the Pathological Institute at the Charité, Berlin, if they knew anything of Leo Loeb who was working somewhere in America on pathology and histology.

They confessed that they did not know. Virchow said that some of Loeb's recent work on epithelium was the best that had been done on that subject for many years, and that as a consequence he wanted to know more of the man. We are glad to note, therefore, that Loeb's work is beginning to attract here in America some of the attention that it evidently deserves. In the advance sheets of *Progressive Medicine*, the new quarterly review of medical progress, edited by Professor Hare, we find in the section on pathology an abstract of the article on "The Regeneration of Epithelium," which appeared in *Roux's Archiv f. Entwickelungsmechanik*, and which attracted Virchow's attention. This periodical is seldom abstracted in American medical journals and this is the first notice that we have seen of the work on this side the water. We think it worth while then to give some of the points of special interest.

Epithelium, in regeneration, develops certain histoclastic properties; that is, it removes tissues of a lower order that hinder its progress. From the margins of a tissue defect in the process of cicatrization, epithelial protoplasmic, or plasmodial, processes move in a sliding manner over the naked surface, enclosing and dissolving the crust and other obstacles. Regenerating epithelium readily removes even such substances as cartilage when it comes in its way. Below the protoplasmic layer, epithelial cells wander in from the margins of the defect and often grow down into the connective tissue, apparently checking the growth of the latter. The process is closely allied to that in carcinoma. At the same time active changes, such as mitoses, occur in the epithelial cells situated even at a distance from the margin of the wound. When the advancing epithelium meets obstacles, such as hair-follicles, cysts may form by fusion of cells around the object.

Loeb believes that the wandering of the cells as he has observed and described it is in response to sterectofusion, and that the active influence of particles of solid tissue on each other forms a determining factor in inducing mitoses in neighboring cells. If a minute portion of epithelium be transplanted to the center of the crust covering a skin defect, it begins to send out processes in all directions into the crust, the cells acting as separate organisms independent of blood-supply or nervous influences.

It is easy to see how important to the student of the etiology of carcinoma such observations are The essential vitality and reproductive activity of regenerating epithelium, with its germinal influence on surrounding cells, represent the awful biologic forces that run riot in the tissues in that segregation of epithelial cells we call cancer. The study of the conditions under which these forces are brought into play brings us nearer to the explanation of the origin of malignant neoplastic tissue. We have had for a number of years a new parasite described each year as the cause of cancer. We have had it of all forms, the simple ferment, the bacterium, the protozoon. Perhaps now we shall get a little nearer the explanation of the mystery, that has remained just as much a mystery despite all the parasitological work done upon it. These careful studies into the biology and pathology of the epithelial cells themselves will awaken new interest in a line of work that has been more or less neglected in recent years because parasitology seemed to present such an inviting field for successful work in etiology.

ECHOES AND NEWS.

The International Association of Railway Surgeons.—The next annual meeting of the Association will be held at Richmond, Va., May 31 and June 1 and 2, 1899. The secretary is Dr. Louis J. Mitchell of Chicago.

Typhoid Fever in Newark, N. J.—There were on March 18th, 105 cases of typhoid fever in Newark, N. J., the largest number ever recorded. The cases have nearly all been traced to the use of polluted Passaic River water.

A Woman Physician's Suicide.—Dr. Amelia C. Perry, sixty years of age, a woman physician very well known in and about her home at Hornellsville, New York, committed suicide by shooting herself near the heart on March 16th.

Smallpox in the South.—In North Carolina smallpox is rapidly assuming the proportions of an epidemic. Compulsory vaccination has been ordered in various places. At Greensborough failure to comply with the ordinance subjects the offender to a fine of $20.

To Bring Back Soldiers' Bodies.—The transport "Roumania" left Santiago on March 23d with 500 bodies of soldiers who have died in Cuba and Puerto Rico. She will arrive in New York about March 28th. In all there are 1900 bodies which the "Roumania" will bring to this country. The bodies upon arrival will be interred in Arlington Cemetery, Washington, unless otherwise requested by friends.

Dr. Skene's New Position.—Dr. A. J. C. Skene of Brooklyn has accepted the presidency of a proposed institution, to be called the Hospital for Breadwinners, which will be built for the accommodation of self-supporting women who are overtaken by ill health. Dr. Skene has been officially connected with the Long Island College Hospital for more than thirty years, and has just resigned the presidency of that institution.

Is There a Sense of Taste?—According to some experiments which have been made at the University of Iowa, sensations of taste seem really to be combinations of reports to the brain made by the nerves of sight, smell, and touch. For instance, few among a large number of persons upon whom tests were made could distinguish, when their eyes were covered and their noses closed, between weak solutions of tea, coffee, and quinin.

Physicians Forbidden to Testify.—On March 13th Governor Roosevelt signed an amendment to the civil code which had passed both houses at Albany. This amendment absolutely prohibits a physician from divulging any information he may have acquired in his professional capacity concerning any patient, either before or after the latter's death. For a long time the insurance law has permitted a physician to testify concerning the physical condition of a policy-holder.

Was It a Phantom Tumor.—The *Trained Nurse* for March, 1899, relates that a woman was recently taken to the Seney Hospital, Brooklyn, suffering from what appeared to be an abdominal tumor. The surgeons examined her and fixed upon a day for operating. Just before the time set the woman arose, dressed herself and walked out of the hospital. She had been "cured" by fright. If she had got into the clutches of a Christian Scientist, another "miracle" might have been reported.

Death Ends a Honeymoon.—On February 21st Dr. William Waldo Van Arsdale of New York City, while ill in bed with an acute attack of grip, married Miss Edith May White, a daughter of Dr. and Mrs. Whitman V. White. The doctor grew better and went with Mrs. Van Arsdale to Atlantic City wnere he suffered a relapse and died on March 17th. Dr. Van Arsdale was Chairman of the Surgical Section of the New York Academy of Medicine, Professor of Surgery in the New York Polyclinic, and Assistant Visiting Surgeon to the Mount Sinai Hospital.

New York City Board of Health and the Manufacture of Serum Antitoxins.—The Medical Board of the New York Foundling Hospital and the Medical Board of the Presbyterian Hospital of New York City have adopted resolutions deprecating the passage of the bill now before the Legislature restricting the New York City Board of Health in its manufacture of serum antitoxins, declaring that the passage of the bill would materially injure the interests of the community, and that any curtailment of the present facilities of the Health Department would react against the public good.

The Approaching Meeting of the American Medical Association.—Arrangements for the meeting of the Association at Columbus in June are rapidly approaching completion. The Grand Opera House which has a seating capacity for 1700 people has been secured for the general meetings and thirteen halls have been provided for those of the different sections. The hotel people are said to be lending generous assistance and give assurance that they can accommodate more than 2000 guests. The section dinners have all been arranged for and plans for general and private entertainments are well under way.

New Building for the Paris Academy of Medicine.—The Academy of Medicine of Paris has accepted the plans for its new home and work is about to be begun. Its old quarters were cramped and utterly unsuitable; the new building is to be palatial in size, architecture, and internal finish. It is hoped that part of it will be ready for occupancy before the International Medical Congress in August of next year. The architect is the well-known M. Rochet, and competent critics who have seen the plans pronounce them magnificent and unite in declaring that the new building will be one of the handsomest in Paris.

To Study Diseases in the Philippines.—The Johns Hopkins University is about to send Dr. Simon Flexner, Professor of Pathological Anatomy and Resident Pathologist of the Johns Hopkins Hospital, to Manila, in order that he may make a clinical and pathological study of diseases prevalent in the tropics. Two medical students, Messrs. Joseph M. Flint of Chicago and Frederick P. Gay of Boston, will go as assistants. The party will sail from Vancouver on March 27th and will return early in the fall. They will take with them the best modern instruments and appliances for the proposed investigation.

Spitting on the Floor of Public Conveyances.—The recent propaganda of ideas as to the prophylaxis of tuberculosis has led to a somewhat better enforcement on the part of street-car employees of the rules as to spitting on the floors of street-cars. The notice posted conspicuously in the electric cars of Scranton, Pa., commends itself by containing in condensed form the morally suasive motives that would prompt would-be violators to restrain themselves and repress their expectoration. It reads as follows: Spitting on the floor of street-cars and other public conveyances is strictly prohibited. By order of the Board of Health. Gentlemen will comply with this reasonable order which is in the interest of public health. Conductors are instructed to eject from the car any person refusing to comply with this order.

Christian Science Interferes.—The wife of Colonel Charles C. Rivers of Chelsea, Mass., on March 9th was stricken with paralysis. Dr. Hawes, who was called in, prescribed and gave a favorable prognosis. Mrs. Rivers was a Christian Scientist, and after the physician's visit, some of these "peculiar people" were called in to attend her. It is alleged that they discontinued the medical treatment, upon which the patient rapidly grew worse. Dr. Hawes was again called, but the case was then beyond medical control and the patient died on March 11th. The physi-

cian refused to sign a death-certificate, and a medical-examiner who had to be called upon, gave the cause of death as "neglect." The case has been submitted to the District Attorney, and a trial in the Massachusetts courts is likely to result to determine the legal standing of practitioners of Christian Science.

Health of Our Troops in the Philippines.—Lieutenant-Colonel Henry Lippincott, chief surgeon at Manila has forwarded to Surgeon-General Sternberg a report concerning health conditions in the Philippines. In this report it is stated that a convalescent hospital has been established at Corregidor Island, the capacity of which can be increased to accommodate 400 patients. The island is at the entrance to Manila Bay, where there is refreshing sea air and less excessive heat and an absence of the naturally unhealthy conditions surrounding Manila. The health of the commands continues fairly good. There is a marked decrease in the number of typhoid and malaria cases; complaints from dysentery remain about the same. Smallpox prevails to a considerable, but not to an alarming, extent. The entire command has been vaccinated four times since the appearance of the disease.

The Presidency of the New York City Board of Health.—An effort is again being made before the New York State Legislature to amend the law which prevents a member of the medical profession from being elevated to the position of president of the New York City Board of Health. No satisfactory reason has ever been presented as to why this restriction should have been made. It is certainly recognized that many medical men in New York City are not, to say the least, inferior in executive ability to the representative men in other walks of life. The education and training of the medical man eminently qualifies him for the position of President of the Board. The medical profession should unite in a demand that this restricting clause be repealed and individual members should write to their representatives in the Legislature demanding their support in the passage of the desired amendment.

International Congress of Medical Ethics.—Among the other congresses to be held in Paris in 1900 in connection with the Thirteenth International Medical Congress will be one under the title of the "International Congress of Medical Ethics." The members of the organizing committee include some of the most prominent medical men in France: Professor Brouardel who was re-elected Dean of the Medical School of the University of Paris, Professor Cornil who is a member of the French Senate, Professor Gariel, and others. Those who desire information as to the proposed proceedings of the Congress and its purposes should address all communications to M. le Dr. Léreboullet, President of the Committee, 44 rue de Lille, Paris, or M. le Dr. Jules Glover, Secretary General, 37 Faubourg Poissoniére, Paris. Further information as to the purposes of the Congress and the questions proposed for discussion are to be made public in the near future.

Canned Food in the French Army.—According to the *Army and Navy Journal* a number of men of the Eighty-second Infantry at Sens were recently seized with vomiting and diarrhea of exceptional gravity of whom twenty were sent to the hospital and one or more died. An inquiry showed that the attack was due to the consumption of preserved food of defective quality. At Havre twenty thousand cans of preserved meat which had been for some time in the stores were opened, and though their contents were undoubtedly wholesome they were thrown into the sea. The *Army and Navy Journal* observes that the French authorities are obviously not up to date. They should have roundly abused every one who ventured to suggest that the canned meat made them sick. The conclusion having been reached that meat preserved in cans should not be kept too long, orders have been issued by the French Government that all canned food bearing the date of 1893 and 1894 and all salt pork dating from years previous to 1898 shall be destroyed.

No Yellow Fever in Louisiana.—The people of Louisiana are congratulating themselves on the prospect of escape from any recrudescence of yellow fever in that portion of the South during the coming summer. In this flattering prospect they see compensation for the discomfort of the low temperature from which they have suffered during the past few months. The thermometer in certain localities has dropped as low as twenty-five degrees below freezing-point. If yellow fever appears within the limits of the State, therefore, the quarantine authorities will have some difficulty in making a satisfactory explanation to the people. We note in the daily press in this connection the deplorable fact that President Edmund Souchon of the State Board of Health and Dr. Quitman Kohnke of the City Board have been indicted for alleged manslaughter in a little town known as East Felinicia for having been the indirect cause of a death in the parish through the introduction of yellow fever from New Orleans as they failed to inform the county parishes of the existence of the disease in that city.

The American Congress of Special Societies.—This Congress will be convened at Washington, D. C., on the second Tuesday in May, 1900. The Executive Committee, composed of one delegate from each one of the fourteen participating societies, at the invitation of its President, Dr. Landon Carter Gray, held its annual meeting at the Union Club, New York, on March 18th. All the members were present. As this committee has the power of self-organization it exercised it in the re-election of Dr. Landon Carter Gray as president and Dr. William K. Simpson of New York City as secretary. The committee also elected officers for the next Congress as follows: President, Dr. H. J. Bowdich of Boston; secretary, Dr. W. H. Carmalt of New Haven; treasurer, Dr. N. M. Shaffer of New York. The committee decided to limit the next meeeting of the Congress to three days instead of four. Two of the afternoons will be occupied by the Congress in general conclave. The first evening will be left open for the individual meetings of the participating societies. The second evening will be devoted to the President's address and reception, and the evening

of the third day to a general banquet. Dr. A. Jacobi of New York and Dr. W. H. Welch of Baltimore were added to the Committee of Arrangements.

CORRESPONDENCE.

TYPHOID FEVER IN PHILADELPHIA.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—I am glad to see that you hold your slippery Philadelphia critic to the point at issue, namely, that Philadelphia drinks water defiled with sewage, and in consequence sickens and dies from typhoid.

A few years ago the city of Munich was in the same rotten state. A loud, popular outcry, in which the physicians not only of the rest of Germany, but of Munich itself joined, at last stirred the authorities to furnish a pure drinking-water in the city pipes. Notice the comparative result in typhoid fever as shown by the official returns of the two cities for the current year:

	Munich.		Philadelphia.	
	New cases.	Deaths.	New cases.	Deaths.
Week ending Jan. 21...	2	0	320	31
" " " 28...	4	0	427	40
" " Feb. 4 ..	2	0	361	38
" " " 11...	3	0	339	41
" " " 18...	2	0	287	38
Total for 5 weeks.....	13	0	1734	188

Munich has 450,000 inhabitants; Philadelphia has 1,300,000, not quite three times as many. In Munich for this period the average number of new cases a week was 2.6, or 5.7 per million inhabitants. In Philadelphia for the same period the average number of new cases a week was 347 or 268 per million inhabitants. In other words, typhoid fever is just 47 times as prevalent in Philadelphia as in Munich. The death-rate in the same period was as 188 to 0.

A CONSTANT READER.

NEW YORK, March 18, 1899.

THE WHITE VERSUS THE YOLK OF EGG AS A FOOD.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—"Eggs make me bilious," is the familiar reply that so often comes to us when we advise the taking of raw eggs. We usually then rack our brains for other suggestions as to easily taken foods, by which we can increase our patient's alimentation. The reason for this "biliousness" I have long explained to myself by a physiological fact not generally known. In many recent works on medicine it is recommended to give patients yolks of eggs to keep up their nourishment, but a little knowledge of physiological chemistry will show I think that it is a mistake to give the yolk preference over the white. Let us take the analysis of the parts:

	NITROGEN.	FATS.	SALTS.	WATER.
White.....	20.4	....	1.0	78
Yolk.....	16	30.7	1.3	52

The nitrogenous parts are egg-albumen and egg-globulin, both easily digested and assimilated. The fatty substance in the yolk is mainly lecithin. It has long been regarded as a physiological fact that this fat—lecithin—in undergoing digestion is converted by the pancreatic juice into glycerin, phosphoric acid, stearic acid, and a poisonous alkaloid called choline. We are protected, however, against this poison by the bacteria in the intestines, which seize on it and convert it into carbonic acid, methane, and ammonia.

Now surely it must happen that these bacteria are not always on duty, or, perhaps, they have more to tackle than they are able to convert, allowing some of this choline to become absorbed, giving rise to this biliousness. I have repeatedly found that a patient made "bilious" by one whole egg can take a dozen raw whites daily without discomfort, and greatly to his advantage. I have many tuberculous patients gaining by the extra strength these whites give when taken between meals. I find an excellent way to take them is to add a little salt, red pepper, and lemon juice to three whites in a glass, but these condiments are not always necessary. Infants will often do well on them when dissolved (not beaten) in water, and a little sugar of milk added; it should be remembered, however, that the egg-globulin does not dissolve in the water, but is precipitated and should be separated by straining.

I often make use of a physiological principle with success with the help of these whites of eggs. I have found that if a weakly patient on waking takes two whites of eggs his appetite on getting down to breakfast is greatly benefited, thereby illustrating Heidenhein's experiment on gastric secretion.

GERALD BERTRAM WEBB, M.D.

COLORADO SPRINGS, COL.,
February 20, 1899.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

THE TYPHOID-FEVER EPIDEMIC AT LAST AROUSES PUBLIC INDIGNATION—AN ENDOWMENT FOR THE LIBRARY OF THE COLLEGE OF PHYSICIANS — A CASE OF INTRATHORACIC TUMOR—TYPHOID COMPLICATED BY MANIFESTATIONS OF HEMORRHAGIC DIATHESIS — A CASE OF ACUTE THYROIDITIS — A STATUE OF DR. PEPPER—PERSONAL NOTES—DR. FLEXNER CALLED TO THE UNIVERSITY — BOARD OF HEALTH NOTES AND HEALTH STATISTICS.

PHILADELPHIA, March 21, 1896.

A MASS meeting of citizens of Philadelphia was held at the Bourse Saturday evening to protest against the criminal action of our councilmen in delaying the improvement of the water-supply, and incidentally these same unique specimens of manhood were treated to some compliments which would pierce the hide of anything except a Philadelphia councilman. The meeting was remarkable, for not only physicians, ministers, and lawyers of the first rank, were present, but public officials and politicians joined the throng which crowded the Bourse. The meeting was an outgrowth of various ward-meetings held throughout the city last week. In his introduction, Mr. William Waterall, who presided, said: "This is a profound, a serious question, and surely it will lead to a

revolution. Let us deal with it as our New England friends did, and rise up and break up councils." Mr. Charles Richardson said among other things: "We hear that there are capitalists who want our water-works, and that they are in collusion with persons of influence who are keeping the water-works in such bad order that they may break down at any moment. Of all men, if this is true, they deserve hanging most. We want no more murders; what we want done, we want done now." Mr. Herbert Welsh said that Philadelphia has been ravaged for three months by an epidemic of typhoid fever, which all would admit is the direct result of a polluted water-supply. "If we dare speak the truth we must admit it comes through our own folly and wickedness. By years of indifference and by persistence in a course which was perfectly sure to have this sequel we have courted this calamity." Among physicians who spoke were Drs. H. C. Wood, John H. Musser, and W. W. Keen. Dr. Wood said that at the present rate one person in every four of Philadelphia's population will have had typhoid by the end of the year, and he also pointed out the fact that to say cases were reported as typhoid which were not so, is both childish and ignorant, as the mortality statistics show only too well that a poisoned water-supply means disease and death always. Dr. Keen compared Philadelphia to Havana and characterized it as only a half civilized city. He gave the statistics of typhoid fever during ten years in Philadelphia, and said that, "It is barbarous; it is worse, it is murder. An eminent English scientist said that for every case of typhoid fever some one ought to be hung. The only reason why the members of councils are not hung is because there are not enough to go around."

What a commentary on a city of Philadelphia's fame as a center of medical teaching! Run by a gang of political thieves is it any wonder that such frightful figures as *ninety-five new cases* of typhoid fever are reported during one day? What puerile trash are statements attempting to deny or defend the death-rate from typhoid, or to compare the statistics of New York, Boston, or any other city in the United States! The papers are teeming with accounts of the Windsor Hotel fire, and yet the loss of life in that catastrophe is nothing when compared with the number of persons dying from typhoid. The property loss, too, sinks into insignificance when compared with the cost of caring for the 4000 cases which have developed since January 1st, and with the business losses which will certainly follow when our more civilized neighbors will refuse to come to a plague-stricken city.

The College of Physicians is anxious to increase its library, and with this end in view an effort is being made to secure an endowment fund of $50,000, of which $20,000 has already been collected. Until quite recently the library ranked next to that of the Surgeon-General's Office at Washington, but recently that of the New York Academy of Medicine has forged ahead. An interesting fact in regard to the college is that out of a membership of about 300 thirty-one wrote or edited medical books during the past year.

At a meeting of the College of Physicians, held March 13th, Dr. J. M. Miller reported a case of intrathoracic tumor which occurred in a man, aged thirty-eight years, who was presented at the meeting. Pain in the left side of the chest, and pain, dyspnea, and loss of weight, were complained of, and in addition, during the past eight months a tumor had been visible which extended from the second to the fifth rib, and from the left edge of the sternum, to the anterior axillary line. There was no enlargement of any veins, nor of the cervical or axillary glands. The blood examination revealed a moderate lymphocytosis, and it was suggested that the tumor might be a lymphosarcoma, or possibly a chondroma.

Drs. John H. Musser and Joseph Sailer reported a case of typhoid fever, complicated by manifestations of hemorrhagic diathesis, which occurred in a boy of nineteen years, who had hemorrhages in the mouth and nose, and in the subcutaneous and intermuscular tissues all over the body. These hemorrhages occurred early in the course of the typhoid, and the patient having died, the autopsy revealed an ulcer in a Meckel's diverticulum (the second case reported within a week or ten days) and a patulous foramen ovale.

Dr. H. A. Hare reported a case of acute thyroiditis with thyroid poisoning which occurred in a woman after slight injury to the right side of the neck. The right lobe of the thyroid became enlarged, and fever, palpitation, and other symptoms apparently due to the presence of thyroid substance in the general circulation developed. Most cases have terminated in suppuration and death, although Dr. Musser referred to one in which, after suppuration, the patient recovered.

At a meeting of the committee having in charge the preparation of a memorial to the late Dr. William Pepper, held last week, it was decided to erect a bronze statue of Dr. Pepper on the City Hall Plaza, and Drs. J. C. Da Costa, Alfred C. Lambdin, H. C. Wood, and Edward Brooks were appointed on the subcommittee having the matter in charge.

Dr. Spencer Morris, Professor of Medical Jurisprudence in the Medico-Chirurgical College, was stricken with paralysis just as he was about to deliver the last lecture of the term on this subject last week. He is reported to be much improved though he has not yet regained the use of his left leg and arm.

Drs. Charles E. Harvey and P. A. Bayer have been appointed by Governor Stone members of the State Board of Health and Vital Statistics.

Dr. Louis W. Reid, retiring Surgeon-General of this State, was tendered a complimentary dinner at the Union League Club on Saturday night. The dinner was attended by three ex-Governors, during whose administration Dr. Reid had served, and all spoke of the faithful service he had rendered during the thirty years in which he continuously held this office.

Dr. Simon Flexner, Professor of Pathological Anatomy in the Johns Hopkins University, has accepted the position of Professor of Pathology in the University of Pennsylvania, to succeed Dr. John Guiteras, resigned, and will enter upon his new duties on September 1st. He had already declined offers from several medical schools, notably one in New York, and one here in Philadelphia.

The bill passed by the Senate, abolishing the Board of Health and creating a Bureau of Health, may not prove to be any advantage in the methods of caring for the public health. This bureau will be under the same control as is the Bureau of Street Cleaning, which gave such a delightful example of its efficiency during the blizzard when traffic was paralyzed owing to its negligence in removing snow and dirt. It remains to be seen whether the head of this bureau will take advantage of the opportunities offered and give us really good service or whether it will degenerate into a foul politicians' nest like its sister departments.

The total number of deaths occurring in Philadelphia for the week ending March 18th, as reported at the Health Office, was 520, an increase of 36 over those of the corresponding period of last year. Of this number 127 occurred among children under five years of age. The total number of new cases of contagious diseases was 571, reported as follows: Diphtheria, 59 cases, with 9 deaths; scarlet fever 35 cases, with 1 death; *typhoid fever*, **477** *cases, with* **44** *deaths.*

MEDICAL MATTERS IN CHICAGO.

[From Our Special Correspondent.]

JONNESCO'S METHOD—DEVIOUS MANIFESTATIONS OF EPILEPSY—RELATIONS OF THE COLON TO INTRA-ABDOMINAL TUMORS.

CHICAGO, March 21, 1899.

AT a meeting of the Chicago Medical Society, held March 15th, Dr. Carl Beck presented a contribution on the value of resection of the sympathetic ganglia of the neck in the cure of epilepsy, and reported several cases in which he had operated. In reviewing his results, he summed up by saying that the method suggested by Jonnesco, and so highly praised by him and his followers, is hardly of any value, and that the few changes for the better that are observed are either accidental or such as are noticed in almost any case following surgical interference. It will be remembered that it was in 1897 that Jonnesco recommended total extirpation of the sympathetic ganglia of the neck on both sides for epilepsy, Basedow's disease, hysteria, chorea, tumor of the brain, progressive paralysis, and many other similar diseases. In all three cases of genuine epilepsy reported at that time the cure was said to be perfect, but they were only observed for a short time. Navratil of Budapest also reported three cases of operations similar to those of Jonnesco and Donath, and described the results, which were negative. Dr. Beck is inclined to favor the removal of the cervical sympathetic ganglia for the treatment of Basedow's disease, believing it would prove of value. It is less dangerous and less difficult than any other surgical method suggested for the treatment of this disease; but as for the cure of epilepsy, he is satisfied that Jonnesco's method is of doubtful value.

Dr. Sanger Brown read a paper at the same meeting on the devious manifestations of epilepsy. He expressed the conviction that the main pathologic feature in epilepsy consists in a sudden disturbance of equilibrium between the several forces of the central nervous system. He regards all neurons directly connected with end organs as peripheral, and all others as central, although the latter are frequently further subdivided into projection, intermediate, etc., this equilibrium being soon completely restored, and a permanent tendency to recurrence remaining. Few observers, who have given the subject much attention, will dissent from the view that by far the most potent etiologic factor consists in a predisposition inherent in the cerebral tissues to undergo those changes which give rise to epileptic phenomena. Some ingenious arguments have been advanced to the effect that the main causative element consists in a vice of metabolism, resulting in an excess of some noxious substance or substances accumulating in the tissues of the brain, and thus exciting this abnormal activity. But even if this is admitted, it is not unreasonable to assume that this metabolic vice owes its origin mainly to influences derived from the nervous system, so that in either case an inherent pathogenic tendency of the central nerve elements has a similar etiological significance. The simple fact, however, that therapeutic measures projected on the basis of an autotoxic etiology have been notably barren of results, so far, at least, rather discredits this theory. Individuals are frequently met with, however, who, on the one hand, have been repeatedly exposed to influences usually regarded as especially likely to act as exciting causes of epilepsy, without developing the disease, and, on the other hand, innumerable instances are observed where the disease develops without any appreciable exciting cause whatever. thus powerfully magnifying the probability of an inherent predisposition. Several cases of epilepsy were reported in which the manifestations varied very materially.

At a recent meeting of the Chicago Medical Society, Dr. M. L. Harris read a paper on relations of the colon to intra-abdominal tumors. He said that one of the first and most important points to be determined in the diagnosis of a tumor of the abdomen is the particular organ or tissue from which the tumor takes its origin. Could this always be accurately determined, the diagnosis would often be much simplified. The old method of subdividing the topography of the abdomen into regions by arbitrary lines so that a tumor found occupying any particular region could be referred to an organ normal to that region, is very unsatisfactory, for the reason that some organs are not always found in the same region, and, again, owing to the facility with which a tumor may be displaced from one region to another. The particular point is not to determine the relations of the tumor to the abdominal topography, but its relations to the viscera themselves. To facilitate this a new subdivision of the abdominal cavity is proposed, based upon definite anatomical outlines. Taking the inferior or caudal layer of the transverse mesocolon and the internal or mesal layer of the ascending and descending colons as a fixed anatomical boundary, the abdominal cavity is subdivided into four areas or regions, namely: The central region, surrounded by the mesocolons; the superior region, lying above the transverse mesocolon; and the right and left external regions, lying external and posterior to the longi-

tudinal mesocolons. This boundary is not recognizable through the intact abdominal wall, but attached throughout to its free border is the colon which can, at all times, be easily outlined. The best method of outlining the colon is by distending it with ordinary air. This is easily done and occasions no trouble. While the boundary here mentioned is in a manner fixed, it may be easily displaced by a tumor. The various tumors common to each of the subdivisions were then mentioned, and numerous cases cited illustrating the characteristic displacement of the colon which is produced by particular tumors. By distending the colon with air and recognizing its characteristic displacement, one is often able to refer a given tumor to the particular organ from which it takes its origin, and thus materially facilitate a correct diagnosis. The following points were emphasized: First, the great importance, clinically and diagnostically considered, of the subdivisions of the abdominal cavity as outlined. Second, the colon, or some part of it, bears a characteristic relation to most intra-abdominal tumors, and an accurate knowledge of such relation is of greater diagnostic importance than any other single point.

OUR LONDON LETTER.

[From Our Special Correspondent.]

THE PRINCE OF WALES' HOSPITAL FUND — LONDON HOSPITALS WHICH RELY UPON VOLUNTARY CONTRIBUTIONS FOR THEIR EXISTENCE — DEATH OF PROFESSORS RUTHERFORD AND STRUTHERS.

LONDON, March 10, 1899.

THE Prince of Wales' Hospital Fund Association has just held its second annual meeting, and the Treasurer, Lord Rothschild, reported that $152,500 had been distributed among the London hospitals during the past year. The existence of this association, nobly beneficial as it is, calls attention to the extraordinary condition of affairs which obtains in the financial status of nearly all the London hospitals. With a few exceptions they are all chiefly dependent, and many of them entirely so, upon voluntary subscriptions from year to year for their running expenses. A few are richly endowed, but many have practically their entire capital invested in buildings, ground, and fittings, and must literally beg their living from the charitable public. So far the public has nobly responded, and the great London Hospital in Whitechapel makes its boast in large letters across its front that it is "supported entirely by voluntary contributions," but it is a singular and most anomalous state of affairs in the richest city of the wealthiest nation in the world. In some respects it does not work badly, as it is a good thing for the hospitals to be compelled to "earn their salt" and make their work prove their value to the public, and it keeps a larger class of the people in touch with hospital needs and hospital progress than an endowment or a government subsidy would. On the other hand, the drawbacks are many. It is little short of scandalous to permit such a precarious "hand-to-mouth" existence on the part of the most vital and important institutions of the community. It makes the rivalry between the hospitals intensely keen and bitter as all are drawing upon the same purse, and each feels that the others' gain is like to be its own loss. Sad to say this feeling even extends to the medical staffs, and the "Bart's" man knows no more of Guys' or St. Thomas' and their methods than he does of the Allgemeine Krankenhaus; no man can belong to the staffs of two of the teaching ones at the same time; the calling of a teacher from one hospital to fill a chair in another is a thing almost unheard of, and the jealously between them is almost incredible in men who are in all other respects educated, broad-minded gentlemen.

What makes this unfortunate attitude more serious is that the entire medical teaching of the metropolis is in the hands of the medical schools attached to the great hospitals, the faculty of each consisting entirely of members of the staff of the particular hospital, with the exception of a few purely scientific chairs. And finally, this dependence upon public favor makes the hospitals both extremely subject and sensitive to all sorts of irresponsible criticism. Some busybody discovers a case of supposed "heartless treatment" and reports it with artistic embellishments to a newspaper, the dear public promptly sympathizes with the patient, and a serious injury has been done not merely to the reputation but also to the income of the hospital, an injury for which there is no redress, and which no amount of official investigation and formal proof of the baselessness of the charge can more than half undo. Hence, members of the staff are often unpleasantly hampered in methods of treatment or in letting self-limited or harmless diseases run their normal course for fear of the bray "experimenting" being set up by the "antis" and their kindred.

Death has again been busy within the ranks of our profession. The celebrated Professor William Rutherford of Edinburgh, familiarly known in medical circles as "Bili Rubin," died on February 21st of influenza. He had been professor of physiology in the University of Edinburgh for twenty-five years, and was widely known both at home and abroad by his valuable original researches, especially that, as his pet name implies, upon the constituents of the bile and the effect upon their excretion of various drugs.

Almost the same day there passed away in the fulness of years and reputation his old teacher in anatomy, Sir John Struthers. Born in 1824, he became an extramural lecturer in the University of Edinburgh about 1848, and soon won such reputation that he was called into the faculty where he gave nearly forty years of continuous service. He was not only a great teacher, but a thinker of great insight and originality, and had advanced views upon the descent of animal forms strongly suggesting the Darwinian hypothesis long before the appearance of the "Origin of Species."

Soon after Professor Kanthack's death a strong desire was expressed by his pupils and friends in favor of some sort of a memorial to his life and services to science. As soon as it transpired that the professor had devoted practically his entire income to the enlargement of his scientific work so that his young widow was left in quite straitened circumstances the memorial committee promptly

decided that the memorial should take the form of a fund, the interest of which should be placed at Mrs. Kanthack's disposal during her life-time, and after her death be devoted to the establishment of research scholarships. And the entire profession will, we think, cordially approve of the committee's action. It is, however, a striking comment, not to say reflection upon the endowment of research in England, that such a state of affairs is possible in the finances of admittedly one of the most brilliant and promising of her original investigators. As was related in a former letter poor Kanthack was actually obliged at one time to give up his laboratory work and attempt to embark in private practice at Liverpool for the sake of a living.

A handsome donation has just been made to Guy's Hospital for the benefit of its medical school by Sir Frederic Wills. The amount is $25,000, and comes in response to Mr. Arthur Balfour's eloquent appeal for the endowment of medical education and research. Lord Iveagh's noble example is bearing excellent fruit already.

The Erasmus Wilson Lectures of the Royal College of Surgeons were delivered last week by Dr. Y. Gregor Brodie, upon the "Chemical and Physiological Properties of Diphtheria Toxin and Antitoxin."

The new laboratories in connection with the Middlesex Hospital Medical School have just been completed and equipped, and will be opened this week with a conversazione.

A singular case of urticaria has been reported by Mr. Hutchinson at his clinic. The patient, a member of Parliament, had been troubled for years by violent attacks of "nettle-rash" at very irregular intervals, each of which lasted for weeks, making his life a burden, and the cause of which had baffled discovery. Upon careful questioning it was developed that the attacks most commonly occurred after eating salmon, but not exclusively, nor did they always follow indulgence in this piscine delicacy. He was, therefore, instructed to experiment carefully with salmon cooked in various ways, and soon found that he could eat it cold, pickled, or escalloped with impunity, but that boiled salmon always brought on an attack. This in England is religiously served with parsley sauce, but happening one day to eat some without this condiment he was surprised to find no unpleasant after-effects, and acting upon this clue found that the real cause of his trouble was the parsley, and that if this were taken in or with any other dish urticaria promptly followed. By scrupulously avoiding this herb in every form the disease was completely got rid of, and he has had no attack of it now for several years.

A most interesting case of syphilis was also presented, in which the groins of the patient were filled with large, flat-topped cauliflower-like, soft warts, bathed in pus, and closely resembling the papillary out-growths of yaws. Mr. Hutchinson said that he regarded yaws as the parent of syphilis, developing in the tropics, and chiefly in the dark-skinned races, and brought back by explorers to temperate climes. Fifty years ago a disease known as "sibbens" or "button-scurvy" was comparatively common in the north of Scotland and Ireland, and was absolutely indistinguishable from yaws. This was clearly proven to be a neglected form of syphilis, and under prompt mercurial treatment has now entirely disappeared.

Dr. Vivian Paore delivered last week the first of a series of lectures upon "The Soil in Relation to Disease." He stated that the group of "soil-diseases" was being rapidly diminished of late years, and one after another attributed to animal or insect hosts, as for instance, diphtheria, the plague, and malaria. The latter, he quaintly remarked, might now be classed with hydrophobia, as due to the bite of an "animal," merely an arthropod, instead of a mammal.

The bacteria and insects of the soil are our best and most invaluable scavengers, and he exhibited the corpses of a number of rabbits which had been buried some months before in various soils and substances which clearly showed that the most rapid decay took place in those buried in rich garden soil, and only three inches below the surface, next in those buried in the same soil a foot deep, then in those buried in ashes, while those in sand, in quicklime, and in ordinary lime had undergone scarcely a third of the decomposition. Moreover, the remains of the bodies buried in ordinary soil and sand were almost entirely free from odor while those in quicklime, lime, and ashes stank abominably.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

KELOID FROM ACNE—SOME FOREIGN BODIES REMOVED FROM THE MALE BLADDER—A RAPID METHOD OF MAKING A DIAGNOSIS OF TYPHOID FEVER—INDICATIONS FOR THE RADICAL OPERATION IN HERNIA—GASTRIC ECTASIA WITH TETANIC SYMPTOMS—INTERMITTENT HYDROPS OF THE KNEE—A MASS OF HAIR IN THE STOMACH WEIGHING ONE POUND—INOCULATION OF TUBERCULOSIS AT CIRCUMCISION—AN IODID ERUPTION UPON THE INTERNAL ORGANS—METHODICAL EXERCISE AS A TREATMENT FOR DEAFNESS.

AT the Berlin Medical Society, January 11th, BUSCHKE showed a negro, aged thirty-four years, from whose neck he had removed a large keloid. Two years before his face and neck broke out in large acne pustules which were treated in various ways with considerable benefit. On the back of his neck, however, a tumor developed which at the time of operation had an irregular rough surface. It was hard at the periphery but somewhat softened in the middle. There were also several ulcerations in the skin over it. Microscopically it was found to be a keloid, and the history left no doubt that it developed from the acne pustules. It was removed and the gap covered by a Thiersch graft. Three months later another keloid was already forming in the scar.

BUSCHKE showed a patient from whose bladder he had removed a lead-pencil by suprapubic cystotomy. It had been in the bladder two weeks, had fallen into three pieces and had become partially encrusted. The patient denied having used the pencil for sexual excitement, and stated that he had gone to sleep with it in his hand, and upon waking up was unable to find it.

POSNER mentioned another case of masturbation in

the male by the introduction of a foreign substance into the urethra. Articles which have been introduced for this purpose are rarely found in the male bladder although common enough in the female bladder. He had removed from the bladder of this patient a rubber tube 56 cm. (22 inches) long and 3½ mm. (¼ inch) thick. By means of a lithotrite the tube was extracted from the bladder without difficulty and the violent cystitis quickly disappeared.

At the session of January 25th, PIORKOWSKI gave a demonstration of a rapid method of distinguishing typhoid bacilli from colon bacteria. He found that the amount of gelatin in the culture media which he employed was so slight that the typhoid bacilli took on in twenty hours a perfectly characteristic form of growth. For this purpose he prepared the medium as follows: Normal urine of a specific gravity of 1020 was collected for two days, the reaction having in that time become alkaline. One-half per cent. of pepton and 3.3 per cent. of gelatin were added and the whole cooked over a water-bath for an hour, and filtered. The filtrate was poured into glasses and sterilized at 100° C. for fifteen minutes, and again the next day for only ten minutes. Upon this medium in twenty hours colonies of the bacteria coli, kept at an even temperature of 22° C. appeared yellowish and round with sharp edges; while the colonies of the typhoid bacilli, appeared as if threads were extending from a center. So delicate was this reaction that the omission of the urine from the culture medium or the failure to keep the culture glass at the required temperature was sufficient to prevent the typhoid colonies from assuming the form of growth above described. The typhoid bacilli were obtained from the stools of typhoid patients by simple dilution. In almost all of the tests the number of typhoid colonies far exceeded that of the colon bacteria.

GRAWITZ mentioned the attempts which have been made for years to diagnose typhoid fever by examinations of the blood, by splenic puncture, by examinations of the stools, and recently and with more success by the serum reaction. Even this reaction fails, however, in many cases and often does not appear until several days after it would be most desirable to have a diagnosis. In one of Piorkowski's cases it did not appear until after the correct diagnosis had been shown by the bacillary growth upon the medium referred to.

ROTTER spoke of the indications for radical operation in hernia. Modern statistics prove that the mortality from hernia operations in the hands of the best men, is only about 0.3 per cent., and that recurrence after Bassini's operation is less than 5 per cent. He had only 1 recurrence in 67 cases. Hence operation was to be advised not only to those patients who have an irreducible hernia, or one that a truss will not hold in position; but to all patients with inguinal hernia, who wish to be free from the annoyance of a truss, the surgeon is justified in saying, that in the present condition of surgery, one can promise permanently to relieve the trouble by an operation practically without danger.

He advocated the method of Kocher, especially for operations upon young children, in whom the dressings are apt to become soaked with urine. This fouling of the wound does little damage if the wound is a simple incision, but in the sutured planes of the patient operated upon according to Bassini, more serious mischief is likely to follow a soaking with urine. Recurrence in young children is very rare after any operation. He had never seen an instance of it after any method, and in a number of cases he had simply tied off the sac high up. The most essential point in the perfect cure is primary union. The poor results which were at first obtained by Kocher's method were due to the fact that the twisting of the sac led to its necrosis and to suppuration. He called attention to the fact that Kocher himself did not advise his method for large herniæ, nor for those with thick sacs. Bassini's operation ought always to be performed with absorbable sutures, not with silk.

February 8th, ALBU showed two patients with dilated stomach who suffered from tetanic symptoms. The first was a mason who in repairing a roof, fell to the ground and was picked up unconscious. He must have swallowed some gravel, for the following year his stomach was washed out, and a small stone came out through the tube. His gastric troubles continued, and three years after the accident, there were attacks of hemorrhage, and almost constant vomiting. The stomach was washed out and twenty-two stones were recovered, facetted in such a way as to indicate that they had lain together in the stomach for a long time. The stomach was so dilated that in a fasting condition it was always possible to wash out from one to three quarts of fluid, with remnants of the meals of several days previous. At this time symptoms arose which were looked upon as tetanic. There was headache, failure of the memory, dizziness, itching of the hands, and often cramps of the fingers. Regular lavage helped the subjective symptoms somewhat.

The second patient had a marked gastric ectasia from pyloric stenosis from a small scirrhus tumor as was proved by subsequent operation, for the tumor was too small to be felt. There was loss of weight, and an almost total absence of hydrochloric acid in the gastric juice. One day just before lavage, the patient had a typical tetanic attack, with the body stretched in opisthotonos, and the fingers in the characteristic position of the gynecologist. The electrical irritability of the nerves of the upper extremities was much increased. The attack passed off in a few minutes. The tumor was removed, the patient gained twenty pounds in six months, and all trace of tetanus disappeared.

At the Vienna Medical Club, January 18th, BUM described a case of intermittent hydrops of the knee, occurring in a man, aged thirty-seven years, who had exhibited neurasthenic symptoms for seven years. Periodically for several months the right knee would swell up with fluid, reaching the maximum of its distention in three days, and then gradually subsiding. There was no pain associated with the phenomenon. All measures, general and local had failed to affect the swelling.

SCHLESINGER mentioned a similar case which had come under his notice. The patient was a man not in the least neurasthenic, but for six years from November to March, every other year, the attacks had come on

every ten days. The swelling lasted two or three days, and was associated in its beginning with an increased frequency of micturition and an increase in the daily amount of urine. He also mentioned an instance in which a mass of hair weighing a pound had been removed from the stomach of a woman by laparotomy. The tumor before operation was readily palpated in the left hypochondrium, and was thought to be of the stomach, but its true nature was not suspected until the stomach was opened.

It was free in the cavity of the stomach. Such cases occur only in women, and owe their origin, almost beyond doubt to a habit of biting off and swallowing the ends of the hair. The only treatment is operative, for no other means are calculated to remove the cause.

At the Imperio-Royal Society of Physicians of Vienna, February 3d, NEUMAN showed a baby whose penis had been inoculated with tuberculosis at its circumcision. Several other babies who had been circumcised by the same rabbi had been infected in a similar manner, and the source of infection was beyond a doubt in the mouth of the officiating priest as he had the practice of taking the penis in his mouth in order to stop the bleeding. The difference between tuberculosis and syphilis in such cases is made clear in the course of time, as the tubercular ulcers and infected glands always suppurate.

NEUMANN described the results of an autopsy performed upon a man aged thirty, who died of nephritis and cerebral hemorrhage, while taking iodid of potassium. The drug had produced upon the skin a profuse eruption, and it was interesting to observe a similar eruption upon the kidney, brain, and pyloric portion of the stomach. The seat of the eruption upon the pyloric region was of a special interest since this portion of the alimentary canal is so prone to the development of ulcers and neoplasms.

At the session of February 17th, URBANTSCHITSCH spoke of the value of methodical exercise for deafness. It has been observed that those who hear with difficulty are improved by a single evening in the theater. Such improvement is much more marked if systematic exercises such as listening to a wagon in the street, or to the voice of another individual, are regularly carried out. In such exercises the better ear must be stopped, otherwise the patient simply listens with this ear, while the deaf ear grows worse and worse. Since a person who hears with difficulty is accustomed to divine the meaning of a sentence from those words or syllables which he hears, it is better to use a foreign language in these exercises, or a collection of words without meaning, and the patient should repeat back each word. Words heard indistinctly should be practised over and over again. The distance between the people should be gradually increased, and the rate of speech varied, etc. It goes without saying that the patient must not see the lips of the speaker. These exercises are exhausting, and should not be continued for more than five minutes at a time. The amount of improvement is sometimes great, while sometimes there is no improvement at all, depending on the nature of the trouble.

SOCIETY PROCEEDINGS.

HARVARD MEDICAL SOCIETY OF NEW YORK.

Regular Meeting, Held January 23, 1899.

THE President, DR. PALMER COLE, in the Chair.

DR. EDWARD R. DUNHAM read a paper, entitled

SIMPLE BACTERIOLOGICAL PROCEDURES APPLICABLE TO THE TESTING OF DRINKING-WATER.

He said in abstract: Eleven years ago when I began to pay some attention to the bacteriology of water its sanitary condition was determined bacteriologically by counting the colonies that would develop from a certain amount of it, usually one cubic centimeter when mixed with some suitable culture-medium. The empirical rule then in vogue as to the sanitary condition of water from a bacteriological standpoint was if one cubic centimeter of the water examined contained no more than 250 bacteria it was good; if more than that it was suspicious; if it contained 1000 it was condemned. This rule, of course, was extremely unsatisfactory in practice. It did not take into account whether the bacteria found were pathogenic or not. We may have a water with 3000 bacteria to the cubic centimeter that would be perfectly innocuous because the micro-organisms were all of harmless varieties; while we may have water containing less than 300 bacteria to the cubic centimeter extremely dangerous because the microbes are all, or nearly all of some pathogenic variety intensely virulent for man.

Then it was thought that value might be given to the bacteriological examination of water by looking for known pathogenic bacteria in it, and as typhoid is the most common of the pathogenic water-borne bacteria the presence or absence of this it was hoped would constitute a good criterion as to the availability of water for drinking purposes. But the differentiation of typhoid bacilli from certain others, especially the colon bacillus, became in course of time more and more complicated. What were considered absolutely distinctive marks lost their value as such. The growth on potato held its ground as a distinguishing peculiarity for some time but it, too, became of a doubtful value and finally the method of differentiation became so involved and required so much time that it became useless. Three to four weeks were required and then a negative result was only relatively conclusive since pathogenic germs might just have been missed in the specimen taken. The bacteriology of water for practical purposes fell into discredit and the necessity for further developmental work became evident.

It seemed worth while to study the possible sources of water-contamination systematically. The life-history of all water is briefly this: It is taken up as vapor from the sea; falls through the air as rain; flows over the surface of the earth in rills to streams and rivers, or filters through it to appear as springs and so eventually enter the rivers and complete the cycle of change by getting to the sea once more.

While in the state of vapor the water is of no interest to the bacteriologist. Falling as rain it becomes contaminated with the bacteria it washes from the air. These

bacteria are, as might be expected, strictly aerobic. It might happen that some of them would be facultative anaerobics, *i. e.*, live normally in the presence of oxygen and yet have the faculty of continuing to live and multiply even in the absence of that gas. In distilled water which had been exposed to the air of the laboratory and the atmosphere out of doors for some time I found no facultative anaerobic micro-organisms. The method employed to demonstrate this was as follows: Petri dishes were prepared in the usual way for the examination of water and then instead of allowing the microbes to develop as usual with free access of air they were put beneath a bell-jar with a water-seal. From this after the inoculated Petri dishes had been put in the oxygen of the air was removed by the presence of a mixture of pyrogallic acid and caustic potash. An hour after the plates were put in all the oxygen had been consumed and as the results show none of the bacteria had time to develop during this short interval. In distilled water exposed to the air as stated above no anaerobic bacteria were found. All of the bacteria washed out of the air are strictly anaerobic. These observations were confirmed by examination of water taken from cisterns and collecting trenches such as may be found in Massachusetts, thoroughly protected from the infiltration of soil-water by cement, and where no contaminating surface-water could enter. Samples taken from these collections of rain-water always had nothing but strictly aerobic bacilli.

The next source of contamination of water in its cycle to the sea is from the soil. A number of samples of distilled water were mixed with measured small quantities of soil and after being shaken up with gelatin cultures were permitted to cool and the bacteria allowed to develop. Some of the plates made were allowed free access to air, others were placed in an atmosphere of nitrogen in the apparatus described. In the air-plates an average of over 30,000 colonies of aerobic microbes were found to have developed from a gram of soil taken from Madison Square, while only some 500 colonies of anaerobic micro-organisms developed from the same amount. Mixture of the water with soil taken from Bellevue Hospital yard led to the development of nearly half as many anaerobic as aerobic microbes. When sewage taken from the main sewer in Twenty-third street was mixed with distilled water the number of anaerobic colonies was ninety-six per cent. as much as that of the aerobes that developed. When the sewage was diluted with water up to one to one-thousand and then twenty-four hours allowed to elapse the result was practically the same and ninety-four per cent. as many aerobes as anaerobes were found to be present. With sewage taken from the ordinary sewer of a small country town instead of New York sewage the result was practically the same. The conclusion is obvious that any considerable number of anaerobic bacteria in water is strongly suspicious of sewage contamination.

This principle applied to Croton water gave the following results: In 1897 about twenty-two per cent. of the bacteria found in drinking-water at the spigot in New York City were anaerobic. In 1898 the anaerobic bacteria numbered but about twelve per cent. Enough certainly to give color to serious suspicion of sewage contamination somewhere along the line.

But so far the methods suggested for the examination of water are merely quantitative and so are open to most of the objections of the older methods. The application of some qualitative method was necessary in order to point out with assurance the presence of dangerous and infective material and in general to point out the probable source of the micro-organisms that occur. The bacilli from the air it was found are mostly chromogenic. Those from the soil belong principally to three classes: There is, first, the family of the hay bacillus; second, that of the bacillus figurans, and third, that of mucoides. The presence of the hay bacillus shows that the water has washed the surface of plants or been in contact with vegetables. In general these three classes of micro-organisms are characteristic of surface-water in country places.

The presence of fecal matter in water because of contamination with sewage is best detected by the presence in it of the colon bacillus and putrefactive bacteria. The test for putrefaction is not difficult. If a small amount of the suspected water be added to a one-per-cent. peptone solution and putrefactive bacteria are present they will decompose the solution and set free H_2S. This may be detected by its blackening action upon a piece of paper previously coated with carbonate of lead which is allowed to hang down into the flask in which the putrefaction is accomplished.

For the colon bacillus the most delicate and satisfactory test seems to be the setting up of fermentation. If the suspected water contains colon bacilli it will cause fermentation in a two-per-cent. solution of glucose. The gas given off is the best sign of this and it may be tested and shown to be CO_2. There are other micro-organisms that cause fermentation and that might be present in water, but their differentiation is not hard. Incubator temperature causes colon bacilli to multiply very rapidly. Sometimes at the end of twenty-four hours almost a pure culture of those bacilli will be found. Other fermentative bacteria are rather inhibited at incubator temperature.

These tests applied to Croton water give the following results: The bacillus mucoides can always be found but means nothing except the percolation of a certain amount of the water through soil. The blackening of the carbonate of lead paper in the peptone solution after the addition of the Croton water shows the presence of bacteria of putrefaction. The fermentation-test is also positive, due to the presence of colon bacilli. This would seem to show that there is sewage contamination of Croton water. Any one who has ever been on the Croton watershed would not be surprised at this. Of course it may be urged that the presence of these putrefactive and fermentative bacteria are due to the washing in of barnyard refuse. This does not improve the matter much, however, as on sanitary as well as on esthetic grounds the presence of barnyard refuse in our drinking-water is not desirable. At present our water-supply is tested chemically and our water is decided to be drinkable. Since there is at present no special prevalence of intestinal d.s-

orders it is probable that this is a relatively safe decision. The chemical tests are, however, lacking in delicacy and the conclusions from the bacteriological observations I have detailed to you show that our water-supply is on the border-line of safety and that present conditions are by no means ideal for a great city's water-supply.

As colon bacilli and the putrefactive bacteria do not live except in the presence of organic matter it is evident that a certain amount of this is always either in solution or suspension in the water, for I have been able to demonstrate beyond a doubt that colon bacilli will not live and multiply to any extent in water free from such contamination.

DISCUSSION.

Dr. Palmer Cole said that of course present conditions on the Croton water-shed are not ideal; that any one who knows the locality realizes at once; but he was glad to think that at present the water is not dangerous and that dilution of noxious matter present plays so important a rôle in keeping it so. In a few years another immense Croton-water dam will be added to those already present and then the still further dilution will greatly add to New York's safety. He had lived on the shores of a lake during certain summers, where he knew that the lake water was being used as drinking-water and with no serious results, yet where he felt sure that the drainings from the houses of all the effete material of the household must eventually find their way into the lake after being filtered through the soil. Filtration then even under natural conditions could play a great rôle in the purifying of water.

To the question as to whether the samples of Croton water tested were taken from the ordinary drinking-water of New York Dr. Dunham replied that they were and at times when the health department had not pronounced it to be in any worse condition than at others. Every now and then there is a little scare on the part of the New York Board of Health authorities because the nitrites in Croton water were found to be increased. This is taken ordinarily to mean the presence of organic matter and to imply sewage contamination. Any contamination of this kind present, however, is so diluted by the immense volume of water that reproduction of bacteria is practically inhibited. The water in its present condition is not dangerous. The results of the tests he had given were only meant to show that the elements that would prove dangerous if present in larger quantities are really present and that the ideal city water has by no means been reached. The idea had been not to disturb people as to present conditions but to endeavor to restore bacteriology to a place in the testing of water by which it may give even more delicate results than chemistry.

Dr. E. M. Foote said with regard to the tenacity of life of the bacillus coli communis, that it had been found by Von Baracz still living after nearly a year in portions of intestine that had in animals been cut off from the rest of the intestine and closed by sutures though left *in situ* in order to determine what happened to portions of intestine thus cut off.

Dr. Dunham said with regard to the purifying effect of filtration that it was marvelous. The water flowing from the Seine sewage-farms near Paris is clear and pure and contains but few bacteria.

Dr. Cole said that he understood that trout would live in it. Dr. Dunham said he knew of an institution in Massachusetts where the sewage of the establishment was used for manure. The drinking-water comes from a well near the farm. This is thoroughly protected from surface or superficial soil-drainage and though the chemical tests show the presence of organic matter, evidently sewage derivatives, no bacteria can be found. Repeated negative examinations had been made and a careful watch was kept for the first sign of bacterial contamination but so far without result.

REVIEWS.

The Principles and Practice of Hydrotherapy. A Guide to the Application of Water in Disease. By Simon Baruch, M.D. New York: William Wood & Co., 1898.

The author of this volume has for many years been known to the medical profession as an ardent advocate of the use of water in the treatment of disease, and no doubt the results of his study and experience as set forth in this volume of more than 400 pages will be welcomed by his professional brethren who, convinced of the usefulness of hydrotherapy, desire instruction concerning the most approved methods of its utilization. The subject is considered in considerable detail, not alone the application of water generally and in individual diseases, but chapters are devoted, entirely unnecessarily we believe, to the "Functions of the Skin," "Anatomy and Physiology of the Skin," "Physical Properties of Water," and "Hydrotherapy in Different Countries." The book is a pioneer of its kind in this country, and as such it should be received. No doubt the author has good reasons for believing that the medical profession has been somewhat apathetic regarding the adoption of water as an agent of great importance in the treatment of almost every disease, but we venture to believe that there has not been such lethargy and "strong feeling of repulsion" as one might be led to think from reading this book. The motto of the volume is a quotation from Dr. H. C. Wood: "Therapeutics developed by empiricism or clinical experience alone cannot rest upon a secure foundation." Why not? On what is the use of morphin based in the relief of pain? Do we in any way understand how mercury acts in the cure of syphilis? Upon what is thyroidtherapy in the treatment of myxedema based? Is it not empiricism and clinical experience?

The author makes altogether too much strife in an endeavor to establish the *rationale* of the action of water on what he is pleased to call a scientific basis, which consists largely in the citation of pulse-tracing and muscle-curves during and after the application of water in different ways. Moreover, his combativeness is manifest in almost every page of the chapters devoted to this part of the subject. For in-

stance, in speaking of the skin as an organ of excretion, he says: "These well-authenticated observations prove incontestably the importance of the skin as a secreting and excreting organ in health and the vicarious utility of this function in disease." Who has ever denied that the skin is an important secretive organ in health, and why quote a catalogue of experiments to prove it? In all fairness it must be stated that the first chapters devoted to the physiological effects of water, the anatomy and physiology of the skin, the physical properties of water, the *rationalé* of the action of water in health, etc., are extremely disappointing and in no way enhance the author's reputation. The chapters on the practice of hydrotherapy are very much more acceptable and to those unacquainted with the modes of applying water they can be unhesitatingly recommended, although there is much to be criticized even in them.

A chapter on the hydriatic prescription is made up largely of "pointing a moral" by recording the mistakes on "justly eminent teachers" and of "otherwise well-informed gentlemen" and a plea for the exact dosage of hydratic procedures. Naturally one can sit in judgment on others if it pleases him. *Chacun à son gout.* But we must demur to the statement that one can write a prescription for a hydric application with the exact dosage of a prescription calling for strychnin. No two patients suffering from chronic disease will be benefited by the same sort of hydric application. Every case is a law unto itself and no one knows what the exact technic for a given patient should be until one or more trials are made. He can then write a hydriatic prescription if it affords him any pleasure, but the technic may have to be varied the next day or the next week as the patient's reactive capacity changes.

In many instances wherein the efficacy of hydriatics is spoken of one cannot help feeling that the author claims too much. The only way to explain that a case of prosopalgia disappeared after one bath is that the patient took to the woods, or left town on the first train, because even hydrotherapy is not a miracle worker.

The index is very incomplete. One example may suffice to show this The author says that hydrotherapy belongs to the most precious antineuralgic remedies, but on attempting to find where the subject of neuralgia is considered in the volume by consulting the index, we find the word is absent.

Although the treatise under consideration is one that deserves to be read and studied, we are of the opinion, after a careful examination of it that nothing can do the subject of hydrotherapy more harm than an overenthusiastic, combative advocacy of it, as if it were the only thing in the world. Hydrotherapy has its limitations and they are very serious. Every one admits its utility, but very few, fortunately, are so wrapped up in the subject that they are unable to see its limitations.

THE DISEASES OF THE LUNGS. By JAMES KINGSTON FOWLER, M.D., F.R.C.P., Physician to the Middlesex Hospital and to the Hospital for Consumption and Diseases of the Chest; and RICKMAN JOHN GODLEE, M.S., F.R.C.S., Fellow and Professor of Clinical Surgery, University College, London. Illustrated. New York and Bombay: Longmans, Green & Co., 1898.

THE authors of this work have not been misled in their attempt to present a "continuous picture of the medical and surgical aspects of pulmonary disease." A careful reading of their book shows a most painstaking effort to record the essentials of present knowledge of the diseases of the lung and pleura from the standpoints, respectively, of the physician and surgeon.

The introductory chapter on the anatomy of the lungs is carefully written, and while making no attempt to give all that is known on the subject, contains more than enough for clinical purposes. The chapter on physical diagnosis is especially thorough and shows the hand of the teacher as well as of the trained observer. The various diseases of the lungs and pleura are next considered, and are discussed fully as to their etiology, symptoms, pathology, and treatment. The surgical treatment of such diseases of these organs as lend themselves to intervention by the surgeon is fully described and is interesting as showing the advances made in recent times in surgery of the chest. Two especially interesting chapters are those on the bacteriologic aspect of pleurisy and on clubbing of the fingers. A chapter on pulmonary osteoarthropathy is included. It is plainly evident that the book is not only complete in the sphere it sets out to cover, but is characterized as well by certain knowledge and by a scientific spirit. The profuse illustrations are especially clear and of important didactic value. The book is to be conscientiously recommended as a serious study of the subject of which it treats.

THERAPEUTIC HINTS.

For "Scrofulous" Adenitis in Children.—

℞	Potass. iodi	. . . .	gr. xxiv
	Tinct. iodi	. . . .	gtt. xxiv
	Syr. gentianæ, Syr. cinchonæ	aa . . .	℥ iii.

M. Sig. One to two tablespoonfuls daily.—*Verneuil.*

For Acne in Young People.—Instead of the frequently employed lotions containing a small quantity of sulphur and a large quantity of glycerin, VEIEL of Cannstatt considers it advisable to increase the sulphur and altogether omit the glycerin:

℞	Sulphuris sublim., Spiritus, Aquæ	aa . . .	ʒ v
	Mucil. acaciæ	. . . .	ʒ iss.

M. Sig. Apply night and morning.

If too irritating substitute a lotion containing from one to fifty per cent. boric acid.

For Tonsillitis.—

℞	Sodii benzoat.	. . . .	ʒ i–iv
	Glycerini, Elix. calisayæ	aa . . .	℥ i.

M. Sig. A teaspoonful every one or two hours.—*Stevens.*

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ORIGINAL ARTICLES.

A FURTHER STUDY INTO THE FREQUENCY AND NATURE OF CANCER.[1]

BY ROSWELL PARK, M.D.,
OF BUFFALO, N. Y.;
PROFESSOR OF SURGERY IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF BUFFALO; DIRECTOR OF THE STATE PATHOLOGICAL LABORATORY, ETC.

THE object of this paper is threefold: first to emphasize the ever-increasing mortality-rate in this State from cancer; secondly, to epitomize some of the more recent studies in regard to its etiology, and especially the arguments which point more and more toward its parasitic origin; thirdly, to bring to your notice the work already done and in prospect in the new laboratory started under the auspices of this State, and located in Buffalo.

With regard to the increasing mortality-rate, it would consume too much of your time if I were to read tables which have been carefully prepared from the returns of the State Board of Health, but the principal facts brought out can be briefly laid before you. These tables are, of themselves, a convincing argument in favor of collective study, and by public aid, as to the causes of cancer, since they show with regard to another disease whose cause used to be equally unknown that since the discovery of the peculiar organism to which it is due its mortality-rate has steadily declined. I allude, of course, to consumption. Since its cause has been known, intelligent and properly directed efforts have produced a very marked decrease in its ravages. On the other hand, the death-rate from cancer is steadily increasing not alone in New York State, but apparently in all parts of the world. There is, furthermore, every reason to infer that this increase will undoubtedly continue until its minute causes are positively determined. So far as we have been able to learn, cancer is now the only disease which is steadily upon the increase. This, of course, is a statement made without reference to the acute infectious diseases, like bubonic plague, etc., which have their own peculiar way of producing epidemic disturbances. In England and Wales, for instance, where most careful statistics are kept, the cancer death-rate has risen from 1 in 5646 of population in 1840, to 1 in every 1306 of population in 1896; that is, in fifty years the proportion has increased nearly five times. All over this country the increase is quite as alarming, while the figures pertaining especially to our own State are equally significant, and quite incompatible with its increase in population. Thus, for instance, in 1887 there were in this State 2363 deaths from cancer and 11,609 from consumption. In 1898 there were 4456 deaths from cancer and only 12,552 from consumption. This increase in cancer mortality is certainly not due to improvements in methods of diagnosis, but rather the reverse is the case, since many cases which were formerly diagnosed as cancer are now properly classified where they belong in other lists. In none of the other diseases tabulated by the State Board of Health, nor in any Government reports, has there been such an immense increase as in cancer. It is the only disease tabulated which shows a progressive and steady increment by months and by years.

A careful study of all these tables permits one to make the following startling prophecy: If during the next ten years the relative death rates are maintained we shall find that ten years from now, *viz.:* in 1909, there will be *more deaths in New York State from cancer than from consumption, smallpox, and typhoid fever combined.*

It is most interesting, again, to see how cancer is particularly prevalent in certain regions. There is a recent report by Dr. Symons, Medical Officer of Bath, Eng., who has found that in his territory cancer is fifty per cent. more frequent than in neighboring localities. But the most extraordinary and significant topographical and statistical study of recent times is that of Behla, in the concluding numbers of the *Centralblatt für Bakteriologie* for 1898, which pertains to the little town of Luckau, in Germany, where, within the past twenty-three years there have been seventy-three deaths from cancer in an area covered by two or three city squares, as many as four deaths from it occurring in one house, and where the disease has assumed the proportions and the importance of an endemic. To this paper should be given the careful consideration of all who are interested in this study, though, to be sure, similar endemic appearances of the disease have been noted in other parts of the world, and in milder form may be said to have almost prevailed in time past in certain localities in Western New York, where the disease is exceptionally prevalent. Prob-

[1] Read at the Ninety-third Annual Meeting of the New York State Medical Society, held at Albany, January 31 and February 1 and 2, 1899.

ably it is not necessary to do more than to rehearse these very brief facts in order to bring vividly to your minds this great and increasing source of danger to our population.

Next, with regard to the actual nature of this disease. First of all it is possible to sweep aside, with one or two possible exceptions, everything that has been brought forward until within recent years as an explanation of this disease. The old theories of irritation, of perverted nerve-centers, of heredity, etc., cannot for a moment stand in view of the searching scientific methods of to-day. We have gotten as far as this at present that we know that cells act as they do in producing the disease either as the result of some external or internal stimulus. The exact character of this stimulus is not yet certainly demonstrated, though things point more and more toward its parasitic, *i.e.*, its potent living influence. There are so many analogies between cancer and other diseases which are known to be infectious that these alone should be enough of themselves to almost convict, aside from the ordinary revelations of the microscope and the findings of the experimental laboratory. If cancer be an infection it must be acknowledged that, as a rule, it is exceedingly slow. This, however, does not prevent us from accepting such diseases as syphilis, leprosy, and others as in their essential nature parasitic. We know very well that infections vary within the widest limits in their intensity and rapidity of action, from those which kill within a few hours, such as yellow fever, cholera, and the like, to those in which two or three weeks are required, like typhoid fever, or those which ordinarily are much slower yet, like tuberculosis. No valid argument, therefore, can be made against the infectious nature of cancer based simply on the time limit. Whatever of value may be obtained from arguments concerning the nature of the tumors and cancers in the vegetable world is cast on this side, because an unprovoked tumor in the vegetable kingdom is an exceeding rarity. The only statements which help us as they come down to us from the writings of our predecessors are those concerning evident clinical facts, such as the direct transmission of cancer from one part of the body to another. We know now that tuberculosis is not inherited, though the predisposition to it may be, and we believe the same thing to be true of cancer. But anything which points to a direct inoculation from one individual to another is of incontestable value, whether recently observed or a thousand years ago.

Further analogy is found in the undoubted cachexia of its later stages, or let us say the more pronounced stages, of all the infections. Such toxic conditions we rarely get from any conditions save the genuine infections. The supposed intimate relation which injury bears to cancer is of no more importance than that upon which the clinicians, and even the pathologists, used to place so much stress in tuberculosis. There are still those who claim that the predisposing cause of most tubercular joint lesions is previous injury of some character, and there are still those who look for a similar mechanical cause of cancer in virtually every case. What is there about injury, which, by itself, can produce at one time tuberculosis, at another syphilitic gumma, or at yet another cancer, save that either at the moment it has permitted a surface or deep infection, or that directly it has so far changed the vulnerability of the tissues as to permit of their more easy subjection to minute enemies from without? Trauma, therefore, must be disregarded save as it plays a subsidiary rôle.

The occurrence of cancer in certain families and its prevalence in certain localities, especially in the so-called epidemics of cancer which writers in various parts of the world have described, permit of scarcely any other explanation except the transmission from one to another of a *contagium vivum* of some kind.

There are, moreover, numerous analogies between malignant tumors and the infectious granulomata, to which the careful student cannot be blind. The characteristic reaction of the cells, the way in which they group themselves, their internal activities, their behavior in every respect, though not identical, are so plainly analogous that they cannot be disregarded. Moreover, the disease which any organism may produce is not necessarily characterized by the presence of its germs in a selected part, though this statement should perhaps be qualified by saying that at present our technic does not yet permit of their detection. This is particularly true of such diseases as tetanus and scarlatina, and probably of syphilis. This is, perhaps, to be explained by the fact which Orth and others have amply demonstrated, that bacteria can pass through certain tissues to find a resting-place in others at long distances, and yet leave no intermediate traces nor indications of their journey. Syphilis is, for instance, everywhere regarded as a parasitic disease, and is so viewed because the various steps of the infection can be traced, and yet we know less of the actual parasite of syphilis than of that of cancer. Indeed, there are numerous diseases whose infectious nature is established, yet the mechanism of whose infection has only been determined since the identification and study of the organisms at fault. In such diseases, for instance, as malaria and plague, the organism enters and leaves no traces by which to track it, yet no one dis-

putes their parasitic character, and one cannot afford to scoff at the infectious theory of cancer simply because we are still ignorant of the organism or the source of the infection.

Again, certain known organisms are well known to possess what we speak of as selective activities, as, for example, the ordinary pyogenic bacteria, tubercle bacilli and Busse's yeast-cells, which latter are capable of irritating the connective tissue, and thus producing a tumor much resembling sarcoma, which, however, after a time subsides. But this is no more than we see in certain malignant tumors in man, since sarcomata in human beings have been known to undergo spontaneous retrocession.

Then, again, from the standpoint of the histologist it cannot be forgotten that observers in all parts of the world have noted in and among cancer cells appearances which have everywhere provoked a suspicion of the presence of micro-organisms, but which have been variously interpreted. By some these have been called cell degenerations, protozoa by others, and fungi by yet others. It is remarkable to see how closely the pictures of these appearances, drawn by observers with these various and variant views, agree at least in this, that they all show something which does not belong to the cell, but is foreign to its proper structure and development, there being the closest correspondence between them in almost everything save the interpretation of the phenomena. This would indicate that our next advances must be made by improvement in technic. Certainly in time past one disease after another has been shown to be parasitic, the change of opinion being due entirely to advances in technical methods. Far as we think we have gone in this regard, there is yet no visible limit to what may yet be revealed in cancer as well as in other obscure conditions.

Every little advance even brings us something of value. For illustration, take the micro-organisms recently identified by Adami, which produce a peculiar cirrhosis of the liver among cattle of Pictou, or others studied recently by Roux, which are too small to be yet seen by the most powerful lenses constructed, which can only be seen when growing in colonies, and which pass through the fine porcelain that has hitherto been supposed to filter out all germs, and yet which produce well-marked lesions. Doubtless some one will soon make a lens with which these individual forms may be distinguished. As yet no one has done it. Again, there is no prophesying what the future may have in store for us in the way of new culture media and methods and improvements in experimental technic. What we most need now are better lenses, still more media, other stains and improved chemical methods. When we recall what the chemists who concern themselves with aniline dyes have done for the pathologist, we have reason to expect great things of as yet unfamiliar materials. The experience of the past few years in the production of toxins and antitoxins has shown the necessity of much more minute knowledge of chemistry, and its application to this line of research. Numerous advances made of late also in chemical physics must be brought directly to bear upon this subject.

Hitherto, almost all the work done on cancer has been carried on in a most traditional and conventional way, and most of it is, consequently, worthless and must be all gone over again by the aid of the latest improvements. This is particularly true of inoculation work, which must be carried on along three lines of experimentation: (*a*) From animal to animal. This has succeeded in various isolated instances in the past, in the hands of numerous experimenters, and quite recently has been methodically carried out with a large measure of success in several laboratories. (*b*) From the dead human subject to the living animal. A remarkable illustration of this was afforded last year by Jurgens, who successfully inoculated animals with the fragments of sarcoma taken from a patient who had been three days dead, which seemed to indicate very strongly that it is not the human cells which are the infectious agents, but some persistent *contagium vivum* which they may thus carry with them. (*c*) Inoculation into animals of pure cultures of organisms taken from fresh human specimens. In this regard the largest measure of success seems to have fallen to the Italian experimenters, like Sanfelice and Roncali, whose labors in this direction are now quite well known. At Montpelier Bosc seems to have had some remarkable results, and in Gussenbauer's clinic at Vienna striking results have followed experimentation with melanotic sarcoma. Certain it is that our ordinary culture and inoculation methods must be extensively revised and modified. The organisms, whatever they are, certainly do not grow easily or successfully on ordinary culture-media, and new ones still more accurately resembling the human tissues have yet to be devised.

The microscopic picture of a section properly stained and prepared, in which one trained to this work can observe the bodies which we are convinced are parasites, shows everywhere their apparent reproduction *in situ*, as well as their multiplication by their own natural methods, which are probably not those with which we are most familiar, as well as their abundance in numbers, since if seen at all they are there detected in large number and over a wide tissue area. These changes are seen much more markedly

at the margin of the growth rather than in the center, where the contents of the older portions may be easily undergoing various degenerations. There would seem also to be a reasonably definite relation between the age of the parasite and the age of the cell, between the rapidity of growth of the two cellular organisms, and between the rate of development of the parasite and the evolution of the tumor. There is also apparently a pretty constant relation between the hypertrophy of the cellular elements and the parasites which they contain. In those now frequent cases in which it has been possible to inoculate from a spontaneous tumor in a given animal other animals of the same species, one always finds on examining the secondary tumors the same evidences and characteristics of parasitic activity as in the primary tumor. Tumors are frequent among fishes, for instance, and among them one may easily detect the presence of parasitic organisms in which the fluids and tissues of fishes are known to abound. This is true also of the coccidiosis of the rabbit, which has perhaps been too eagerly studied, and from which too stringent conclusions have been drawn. Bosc seems to have had remarkable success by spontaneous and deep implantation of fragments of tumors into animals of the same species, as also by intravenous inoculation, a method also which has given quite startling results in our own laboratory at home. Inoculations from one animal to another of differing species produce lesions varying all the way from sanguinolent effusions to distinct tumors, all of which have this most important experimental result in common that they show how a fragment of tumor known to contain parasites, when inoculated into a healthy animal, produces not the ordinary type of inflammatory phenomena, but a reaction of distinct and special type which almost invariably assumes the neoplastic form. Hanau and Morau have repeatedly succeeded in inoculating spontaneous tumors from rat to rat and have even been able to demonstrate a general cancerous invasion as the result of their experiments. In 1890 Eiselsberg successfully implanted a fibrosarcoma from one rat to another. Although the dog is here, as in most other experiments, the most resistant of all animals, Wehr has succeeded in transplanting malignant tumors of the prepuce or of the vagina, and in producing a general and fatal carcinomatosis, while Klencke has also had positive results with melanosarcoma in horses.

But of still greater interest are the inoculations of cancer from man to man. Bosc alludes to three cases with which, he says, he is personally familiar, where he intimates that this had been done both intentionally and successfully, yet he is discreetly silent with regard to details. Nevertheless, there are numerous instances of veritable auto-inoculation which have come under the observation of observers of large experience. Such, for example, as transplantation of cancer from the tongue to the cheek, the stomach, etc.; and for this matter, *why is not every metastasis as valuable for our purpose as a deliberate transplantation experiment?* Moreover, take the following instances, which are most instructive in their way: Waldeyer and Quincke have reported a case in which cancer followed along the track of the trocar which had been used for tapping a case of ascites due to abdominal cancer, and Sippel has published a case of cancer inoculation along each one of the suture tracks made after extirpating a cancerous ovary. Richardson has quite recently reported a case of invasion of the axilla along the line of a puncture made for the purpose of discovering the nature of a mammary tumor, and a New York surgeon had some time ago a case where cancer developed along the lines of incision made for relieving tension in the endeavor to close a large wound made by removing a cancerous breast, these incisions having been made with the same knife used for operating upon the primary tumor. Indeed, one of the most eminent of my surgical friends has told me quite recently that he will never use the same knife for cleaning out the axilla which he has used in removing a cancerous breast. There is also the celebrated case published by Cornil, in 1891, of a woman having a large tumor of the breast in which a surgeon, name not given, yet known, after its removal inserted a small particle of the growth beneath the skin of the breast on the opposite side. Although the small wound thus made cicatrized without trace of inflammation, a nodule formed at that point within two months, whose subsequent microscopic examination revealed unmistakable cancer, the growth in each instance being a spindle-celled sarcoma, in whose cells mitotic activity was most pronounced.

Note the experiences, also, of other men. Years ago Langenbeck made a watery emulsion of a soft cancer, filtered it, mixed with it the defibrinated blood of a dog, and then injected it into the femoral vein of another dog. Two months later nodules were found in the upper lobe of each lung and a hard vascular tumor in the middle lobe, which proved distinctly cancerous and resembled the original. Follin and Lebert did the same thing with a cancerous lymph-node from the axilla and within fifteen days found in the animal small cancerous nodules in the lungs and liver. Goujon has produced melanosarcoma in small animals within fifteen days after inoculation. In 1893, Mayer published a case of successful inoculation of encephaloid cancer from man

to the white mouse. Bosc has had repeated, though not uniform success, in producing various sized tumors beneath the skin, within the abdomen, etc., and has found the best results when rigid asepsis is maintained and the inoculation made by abdominal section, especially when the fragments introduced are of considerable size and are taken from the actively growing parts of the cancer. Not the least interesting of his observations are those showing the apparent ease with which these parasites, when planted on one side of the diaphragm, traverse it and involve viscera on the other side. This speedy transference between lung and spleen, for instance, he has repeatedly noted and it well illustrates the ease of lymphatic communication through this partition. In all this work it is to be understood that there is practically uniform reproduction of the histological characteristics of the tumor experimented with. So far as I know, there are no observations anywhere reported showing that pieces of healthy tissue introduced into animals under any circumstances ever produced anything resembling a malignant tumor.

There is no reason to think that the parasites which produce sarcoma are essentially different from those which produce carcinoma. The principal differences obtain in that the parasites of sarcoma as a rule present more active changes; in other words, their life history is much shorter and more active. The giant-celled sarcomas seem to be distinguished from the round-celled principally by the presence in the former of relatively larger masses of parasitic organisms.

We may say, then, that malignant tumors are such by virtue of certain specific, *i.e.*, parasitic elements which they contain, and in many respects are analogous to the infectious granulomata, which we now know to be due to other specific organisms. Their peculiar characteristics are in the main due to more or less regular cell proliferation and distinct hypertrophy of cell elements. They manifest a tendency toward alveolar arrangement, with a preference for epithelial cells and the formation of certain cell aggregations, such as pearly bodies and cell inclusions, as well as toward cystic changes by colloid or mucoid degeneration. Practically, all of the characteristics of cancer are explainable by the now well-known activity of parasites, which tend to maintain for the most part an intercellular life, and which rarely penetrate the cells themselves except in search of pabulum or as the result of pressure.

Cancers propagate themselves in various ways: (*a*) By contact as from one lip to the other; (*b*) by continuity of tissue as in cancerous infiltration; (*c*) by transportation as when we see minute ulcerations about the nipple or along the milk-ducts in cases of cancer of the breast, and (*d*) by metastasis to a distance along lymph-tracts, while at the same time no traces of their passage along these vessels can be demonstrated. There is finally a possibility of (*e*) conveyance along the veins or blood-vessels, which certainly is unmistakable in numerous instances. Nepveu and numerous other observers have insisted that they have found cancer parasites in the blood, either from the vicinity of tumors or at a considerable distance. They claim to have seen these in the interior of the red corpuscles.

I have already alluded to the frequency both of tumors and of parasites in fishes. Bosc has referred to a most intesesting case of a young man who, in eating raw trout, had a perforation of the tongue by one of the sharp so-called bones of the fish, and who withdrew a small portion of the broken-off structure. Some days later there was continued irritation and on the fifteenth day there was extracted from a painful, sensitive area of the tongue a considerable fragment of the same bone. From now on there developed at this point an unmistakable epithelioma which grew rapidly and killed him in about a year from the time of the injury. Bosc maintains also that the small fish, which one eats entire without regard to the little bones which they contain, constitute by themselves a source of danger of infection for the stomach and the entire alimentary canal. He shows also that cancer of the stomach is extremely common where people eat freely of this kind of food. If one will take pains to study insect life minutely he may constantly find in the intestinal tract, or in the general abdominal cavity, evidences of cystic degeneration and other alterations due to the presence of micro-organisms which are often at least sporozoa. Throughout those parts of the country where cancer is frequent and where insects and lower animals are constantly present and in contact with the body, as upon the clothing, skin, etc., there would seem to be more or less of actual relation between their presence and the development of external cancers, a relation accentuated by the notoriously uncleanly habits of many of the lower classes. Take the case of a nursing mother with a more or less exposed nipple. It would be possible for one insect upon the skin in the immediate neighborhood of this possible port of entry to elaborate any number of spores or micro-organisms which might serve as infecting organisms. The contaminated fingers and a contaminated water-supply might also serve as means of transport. The rôle which bed-bugs may play was demonstrated by Morau with small animals some years ago and was described in a paper published by myself last year.

Let us ask again, Is cancer actually contagious? Answer in the affirmative would seem to be dictated by such cases as the following: Kuhn has reported the case of a woman who contracted an encephaloid cancer of the finger while caring for a cancerous cow. Hyatt, in 1885, reported a case of inoculation of melanotic sarcoma from horse to man, and Gross claimed to have seen two cases of transmission of cancer from domestic animal to man. Juergens has reported accidental inoculation of epithelioma from a fowl to the thumb. Conversely Budd has reported the instance of a pet dog which contracted cancer of the tongue from licking the cancerous lip of his master. Bosc states that animals living in laboratories where cancer experiments were frequent became themselves affected. Evidences of communication from man to man are numerous. Lusitanus long ago, for example, reported a case of three boys who presented each a cancer of the breast after having for a long time slept with their mother who had a similar disease. Smith has cited the case of a London hospital surgeon who was affected with cancer of the tongue after having taken into his mouth some of the discharge from a cancerous breast. Tranmission to husbands of cancer from wives affected with uterine cancer have been reported by numerous surgeons, and Guéniot has collected reports of twenty-eight such cases. Budd refers to the fact that at least five French hospital surgeons have died of cancer. Emson died of cancer eight months after having injured himself during an operation upon a cancerous patient. Two years ago Guermonprez reported the case of a physician who suffered from cancer at a point where had existed an acne pustule which he had infected during an operation for scraping a cancerous uterus, and the reporter himself suffered for a long time in a similar way. It is notorious that the skin and the various orifices of the body, including the pylorus, the os uteri, etc., are the most favored sites for cancerous development. This is to be explained not alone on embryological grounds but because they are the most exposed of all the parts to infection. One could multiply arguments and statements of this kind indefinitely were he to hunt through literature for the purpose. Surely enough has been already stated to reasonably prove the thesis upon which the second portion of this paper is based.

Lastly, let me invite your special attention to work recently done and projected in our own State. Last year, as the result of persistent efforts on the part of a number of individuals, professional and laymen, both in and out of the Legislature, the Legislature of New York appropriated a small sum for the purpose of "equipping and maintaining a laboratory" devoted to this kind of research. The money was placed at the disposal of the Medical Department of the University of Buffalo, which seems to be located in a region where cancer is more prevalent than in any other part of the United States. The laboratory was at once instituted and put in operation, the writer of this paper being made its Director; and the pathological work was soon placed in charge of Dr. H. R. Gaylord. The equipment of the laboratory is of the very best and the personnel of its working staff admirably adapted to the work in hand. Were this the proper place I could tell you much of their zeal and untiring effort in the work. The primary object of this institution is a determination, if possible, of the nature of the disease, secondary to that, of course, being whatever may be accomplished for its medication and cure. The heartiest cooperation of the profession has been publicly invited and already in many instances obtained. The closest relations exist between the laboratory itself and the clinical opportunities which the university affords, so that by this means there may be the most careful study carried on at the same time of the patient himself and of the specimen removed. The work so far as projected includes everything that may be done in the way of clinical study of cases, especially those which are under the personal observation of members of the laboratory staff, a most careful study of the pathological and histological elements found in every fresh specimen removed, a carefully conducted bacteriological examination with systematic endeavor to cultivate in every known culture-medium whatever living parasites may be obtained. Just so soon as means and space are afforded it is intended to conduct also most minute investigations into physiological chemistry, including chemical and spectroscopic examinations of all the fluids, chemical analysis of secretions, etc. How much of real value may be accomplished by such study is briefly foreshadowed, for instance, in the paper of Moraczewski (*Virchow's Archiv*, vol. 139, page 385) upon the amount of chlorin and phosphorus in the blood of cancer patients, who showed that while in almost all forms of anemia there is a reduction of the amount of phosphorus, in the anemia of cancer there is a relative increase in the amount of chlorin. The value of a careful determination of this and various other similar problems in diagnosis is simply inestimable and is all in the direction of facilitating earlier diagnosis. If we are ever to have a successful internal remedy for cancer we must learn to recognize cases earlier than is at present possible and every method of this kind must be assiduously cultivated. Such a problem as the above, or the alleged presence of sugar in

the blood in sarcoma, or peptone in the blood in carcinoma, etc., need to be all worked out anew. So soon also as the State places sufficient means at command it is intended to institute a series of examinations of whatever specimens may be sent us, just as at present in various city laboratories suspected sputum or exudate is examined for the determination of diphtheria, tuberculosis, etc.

It is, of course, altogether too soon to enter upon any detailed or systematic report of results obtained. To attempt anything of this kind now would be premature and unfortunate. I do want to say this, however, that results obtained already within the past six months have been almost startling, or even dramatic, and give promise of great advance in our knowledge in the future. In virtually every case of cancer yet examined where we have had access to the fresh specimen it has been possible by improvements in technic, which are due to the ability and ingenuity of Dr. Gaylord, to find bodies which cannot be other than parasites present in vast numbers. These are undoubtedly the same bodies which some observers in time past have called cell-degenerations, others fat-globules, but which are now quite generally recognized as parasites; though opinion is still divided as to whether they are sporozoa or fungi. They can now be demonstrated in our laboratory to any one who will take sufficient interest in the problem to come and see for himself. Their life history is now being carefully studied both by culture and inoculation work with results that are in some respects exceedingly satisfying and in other respects exceedingly promising. It will be enough for the present if I say that both cultures and inoculations have been so often successful as to leave no doubt in the minds of those who are doing this work that cancer is unmistakably a parasitic, *i.e.*, an infectious disease.

NASAL CATARRH IN CHILDREN; ITS CAUSE AND TREATMENT.

By CLARENCE C. RICE, M.D.,
OF NEW YORK;
PROFESSOR OF RHINOLOGY AND LARYNGOLOGY IN THE POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

(Concluded from page 363.)

We come now to atrophic rhinitis, and this is by no means an uncommon affection. How frequently we find, even in children five and six years of age, both in dispensary and private practice, evidences that an atrophic process has commenced. We rarely see this condition at a younger age, but from the sixth year on we should say that it is present in some degree in ten per cent. of our cases. We do not often see the extreme condition of atrophy and dryness before young adult life, but in ten per cent. of the cases in children we find that the nostrils are too roomy because of shrunken turbinated tissues, and the mucous membrane generally has a grayish appearance, and is dryer than normal; the secretions, too, are no longer sufficient to keep the nasal passages moist, and we detect a tendency to the formation of small crusts. I know that many writers contend that atrophic rhinitis does not commence much before the twelfth year, but I frequently see the early stages of it in children six years old. The question has never been satisfactorily settled whether atrophic rhinitis may not be a later stage of hypertrophic trouble. It seems to me that in the majority of instances this is not true, but rather that there is in these cases from the beginning a special predisposition to atrophy. If atrophic rhinitis were often a later stage of a hypertrophic process we would all have abundant opportunity of witnessing the period of transition from one process to the other. I believe the same conditions can in one child produce a hypertrophic process, and in another an atrophic one. We frequently see remaining in fairly well advanced cases of atrophic rhinitis, in children twelve years of age, some enlargement of the third tonsil, although there is a strong tendency in these cases to atrophy of all tonsillar tissue. The conditions of life certainly have an important bearing upon the development of atrophic rhinitis because we see it much more frequently in dispensary practice than among the better classes.

The great disturbance of the mucous surfaces during the eruptive fevers undoubtedly determines many atrophic catarrhs. Such a condition as a pharyngeal vault blocked with adenoids which constantly create acute coryzas and cause the nostrils to be filled with a mucopurulent secretion would naturally contribute largely to the causation of atrophic rhinitis. We have here mechanical, physiological, and chemical causes at work which together are quite competent to destroy the epithelial covering, to diminish the blood-supply, to compress the mucous glands, and to produce atrophy. It does not seem necessary to place too great importance upon constitutional tendency when such potent local causes are present to devitalize mucous and submucous structures. Atrophic rhinitis occurs more frequently among the poor than among more fortunate people because in the first instance the nasal passages are apt to be wholly neglected, nor are post-nasal adenoids or enlarged faucial tonsils removed. Once the nostrils are thoroughly closed and the secretions become decomposed nasal bacteria are able

[1] Read before the Section on Laryngology and Rhinology of the New York Academy of Medicine, November 23, 1898.

to attack the nasal tissues. Why is it not possible in the condition of obstructed nostrils just described that in the child of healthy surroundings in whom the nasal passages are partially cleaned, hypertrophic changes take place, while in the neglected patient the extreme unsanitary conditions of the nostrils tends to atrophy?

There is no time in this paper to describe pathologic appearances and symptoms, nor is it necessary, because you are all perfectly familiar with the appearances present in an atrophic rhinitis. There is no question in my mind but that very many cases of atrophic rhinitis could be prevented or aborted by thoroughly treating catarrhal conditions when they first appear in babies and young children.

I have never believed that the term ozena, either in children or adults, should be applied to a special disease. It seems to me rather to be the proper name of a symptom, that is, a fetid odor, which accompanies many conditions. It does not require much consideration in connection with diseases of children, although Carig says that ozena extends back to earliest infancy and that family practitioners are familiar with cases at the age of four. A large number of dissections have been made by Zuckerkandl[1] with the object of ascertaining if ozena might not be a sort of congenital atrophy or congenital anomaly of the nose, but he was not able to substantiate this. Störk believes that ozena results from nasal gonorrhea and so dates from birth, or that it is a manifestation of late hereditary syphilis. The majority of writers prefer to think that it is a symptom of such various causes as a suppurating pharyngeal tonsil, decomposed pus in the accessory sinuses, necrotic bone, foreign bodies, collections of leptothrix masses in the post-nasal space, or the decomposition and retention of secretions anywhere in the nasal passages. Grünwald says that "clinical ozena is made up of a variety of suppurative processes." I see in the writings of many authors a disposition to the belief that atrophic rhinitis and ozena are synonymous, the latter being an extreme type of the most advanced stage of the former. If ozena is a special disease, that is, depending on a special germ and always producing characteristic pathologic changes it has up to the present time not been clearly recognized. Using the word ozena in its original sense of an offensive discharge as first used by German authorities it certainly represents not a disease but a symptom. Bacteriology would naturally decide as to the existence of a special disease called ozena and make the differential diagnosis between it and atrophic rhinitis. Several investigators believe that the bacillus mucosus or the bacillus of Loewenberg and Abel is the cause of ozena. There is no reason, however, why this bacillus should not develop in any purulent or mucopurulent secretion. A theory that ozena is a natural sequence to an atrophic rhinitis is based on the belief that in an atrophic process the bactericidal power of the normal secretions is greatly diminished or lost; hence, in a given case of atrophic rhinitis a bacteriologic test which would show Abel's bacillus in large numbers would be the only scientific method of making the diagnosis between an atrophic rhinitis and the condition known as ozena.

I am sure I have said enough to make it plain that I believe enlargement of the pharyngeal tonsil is more frequently the cause of chronic nasal catarrh in children than any and all other conditions connected with the nose and throat. I was glad to find in Dr. Holt's book, in the chapter on "Adenoids," the statement that "it is a very common and by general practitioners a much-neglected condition and is the source of more discomfort and the origin of more minor ailments than almost any of the pathologic conditions of childhood." This adenoid enlargement is common to all classes of children under all conditions. It is very probable that the exciting cause which creates this enlargement is neglected nasal catarrhs and the acute coryzas accompanying the eruptive fevers, and that as soon as the nasal chambers become blocked by swelling and discharge and mouth-breathing becomes necessary the post-nasal adenoid increases rapidly in size. Enlargement of the faucial tonsils is usually secondary to that of the pharyngeal tonsil. Enlargement of the pharyngeal tonsil is sufficient to cause congestion, thickening, and catarrhal discharge of the entire mucus surface from the nose to the smaller bronchial tubes.

In bringing to a close our remarks in regard to the causation of nasal catarrh in children in its various forms I should like to emphasize my belief that ninety per cent. of the cases of so-called chronic catarrhal rhinitis are caused by enlargement of the post-nasal lymphatic tissue and the resulting nasal obstruction. We believe that true hypertrophic rhinitis in children is rarely seen and that deviations of the septum, except from traumatic causes, are conditions which seldom provoke a chronic catarrh. It is our belief, also, that the presence of post-nasal adenoids is sufficient to constantly occasion acute attacks of rhinitis which eventually become chronic, more often in an atrophic than in a hypertrophic form. In most cases if the adenoids are removed by operation fairly early, the hypertrophic changes which seem to exist in the occluded nostrils will

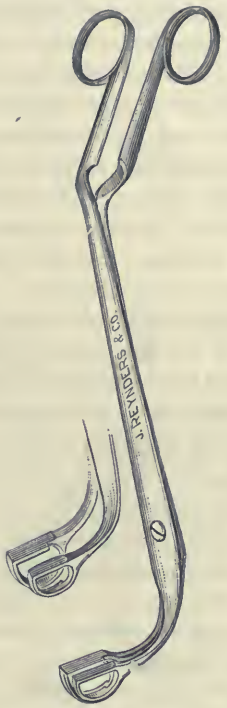
[1] Zuckerkandl, *Normal und patholog. Anat. der Nasenholen*, Wien, 1882.

disappear and the nasal passages will become practically normal.

If, then, post-nasal growths and enlargement of the faucial tonsils are so frequently the cause of the various forms of nasal catarrh in children the treatment would seem to be very clearly indicated. It is almost impossible to use douche or spray satisfactorily for cleansing purposes in occluded nostrils until enlargements of the pharyngeal tonsil have been removed by operation. We have never known any internal medication to be sufficient to reduce such enlargements, and it seems to me a waste of time and a harmful policy to delay operation while attempting to improve the general health of the child even by such excellent remedies as cod-liver oil and iron. You are all so familiar with the disastrous results of long-standing cases of post-nasal adenoid that it is unnecessary to even advocate their removal by proper operative measures, that is by the forceps, or curette, or both. A most excellent discussion on this subject will be found in the "Transactions of the American Laryngological Association" for 1898, in which will be found the views of many experienced physicians. Mouth-breathing children should receive prompt attention, and obstructions should be removed before hearing is impaired, the shape and expression of the face altered, the lung tissue restricted in volume, chronic bronchitis occasioned, and the general constitution impaired for all time. If it is impossible to examine the post-nasal space with a mirror, and it is a difficult thing to do in a small child, I am in the habit of making the diagnosis with the curette itself. If there is no enlargement of tissue no harm is done; if there is, the curette will find it and remove it, and then proper directions can be given to the parent for cleansing the nostrils and delaying irritation. It is a painstaking operation to excise faucial tonsils and to *thoroughly* eradicate post-nasal growths. It is not pleasant to have children brought back after operation still breathing through the mouth, and to find some part of the pharyngeal tonsil remaining.

It is not within the province of this paper to describe in detail the operation for the removal of adenoids. I think it is usually best to give an anesthetic, and I prefer ether because I consider it safer than chloroform. I have performed the operation a great many times, and have had no difficulty with ether. A very important caution in operating is, I think, to proceed slowly, and to wait for hemorrhage to cease from one point before removing tissue in another. As there is an abundance of time it is never necessary to excise both faucial tonsils at once, but is better to wait a few moments until the bleeding from the first has stopped and later the nasopharyngeal tonsil can be removed. A mouth gag should be used, secretion wiped away from the

FIG. 1.



Cutting forceps for the removal of adenoids.

pharynx, and first the cutting-forceps (Fig. 1) should be carried to the roof of the upper pharynx, and a

FIG. 2.

Adenoid forceps.

large portion of the tonsil removed with this. Perhaps the cutting-forceps should be introduced two

or three times until almost all the tissue has been removed, and then the remainder can be taken away with the curette (Fig. 3). There are three ways of determining if all tissue has been removed; I make it a point to use the curette until the surface feels perfectly smooth as the instrument is pushed up and down. The finger, too, will be of assistance in determining whether any tissue remains, and in exceptional cases it will be feasible to use the post-nasal mirror. If the faucial tonsils are very large I think it is better to remove them first in order to get increased breathing space before the nasopharyngeal tonsil is removed. If the operation is thoroughly done and good drainage is established there will rarely be any septic results; but if the tissue is only partially removed it is possible that middle-ear inflammation, or follicular tonsillitis, or inflammation of the lymphatic glands will ensue. I do not often prescribe a nasal wash directly after the operation, because I have never felt that there was any necessity when the operation was thoroughly done and good drainage established.

Perhaps we should say, in passing, that there are a few cases, usually traumatic, in which at the tenth or twelfth year there is sufficient deviation of the nasal septum to require removal of the projecting surface. Once all obstructions are removed the treatment of nasal catarrh resolves itself into proper cleansing and the application of disinfecting, protecting, and sedative remedies. It is quite as important to study *how* the application of medicines can be made to the sensitive mucous membrane of children in the most comfortable manner as it is to select the drugs themselves. We think that with proper instruments for atomizing and for inhalations remedies can be carried to the upper air passages in an efficient manner without the necessity of forcibly swabbing the throat of a resisting child with brushes. Sprays or applications which are strong enough to produce irritation should never be carried into the nostrils. Cleansing with proper alkaline sprays and protecting either with disinfecting powders or oils seem to me to be the proper objects to be accomplished. In some children a simple one-bulb atomizer filled with Seiler's or Dobell's solution accomplishes the purpose, but if this produces sneezing then the nasal douche cup should be substituted, the liquid always warm, and the child's mouth always kept open to prevent the entrance of the medication into the Eustachian tube. Such solutions as Seiler's and Dobell's can to-day be improved by the addition of a small percentage of peroxid of hydrogen or of thymo-formal or some similar preparation. The addition of one-half of one per cent. of cocain to such cleansing washes does not make a perfect chemical combination, but the effect of the cocain is obtained and it reduces swelling and sensitiveness so that the wash can more thoroughly perform its work. Its addition is most necessary in the acute coryzas of children accompanying the eruptive fevers; one-half of one per cent. is sufficient. A teaspoon or a soft bulb ear-syringe will sometimes be found more useful than either the atomizer or the nasal douche cup. I have sometimes been in the habit of using a steam inhalation in children who very strongly resisted all attempts to wash the nasal passages. Of course this is most applicable to children in bed suffering from acute disease. The entrance of the steam liquefies the secretions so that

FIG. 3.

Curette for the removal of adenoids.

after a time they dislodge themselves, unless there is great obstruction from inflammatory swelling or chronic enlargement of tissue. Most of the steam inhalers are of the type of the old croup kettle. The Underwood Company furnish an elaborate one; Whitehall & Tatum's evaporizer No. 3 (Fig. 4) is good and the very cheap benzoinol inhaler may answer the purpose. I am in the habit of using some one of the following preparations—tar, carbolic acid, cresoline, eucalyptol, menthol, terrabine, oil of pine needles, etc. This method of inhalation is particularly admirable for the attacks of catarrhal laryngitis which accompany acute coryza, but I have

been in the habit of prescribing it occasionally for cases of chronic nasal catarrh where the secretions are tenacious and abundant.

After the nostrils have been cleansed a non-irritating disinfecting powder or some one of the solutions of oil can be placed in the nostrils with benefit. The powder I employ most is some one of the compound stearates made by McKesson & Robbins and combined with boric acid, aristol, alum, menthol, etc. The protection furnished by such a powder allays irritation and diminishes congestion and secretion. They should not be used where there is atrophic disease, as they are too drying. In this class of cases oils containing a

Fig. 4.

Steam evaporizer for use in cleansing the nasal passages of children.

weak solution of some one of the volatile substances is preferable. I think we obtain by the rapid evaporation of such drugs as thymol and eucalyptol a cooling of the mucous surface which is really an astringent effect without the irritation of any of the old-fashioned irritating astringents. A few drops of spirits of chlorform can be added to this oily solution. We constantly have trouble with our atomizers in spraying oily solutions. I am not at all satisfied with the ordinary oil-atomizer and see no reason why they should not be manufactured on the same plan as those in use for watery solutions, except that they must be coarser. It does not seem to me of value to endeavor to discover more new remedies for the treatment of nasal catarrh in children, but rather to recognize the importance of finding and removing any obstruction which impedes respiration and which constantly produces the acute coryzas and chronic nasal catarrhs. Once the nostrils are free, cleansing and protection will suffice. Nor is it necessary to enumerate a large number of drugs for the treatment of atrophic catarrh in children because the disease as a rule is not far advanced and cleansing and mild stimulation will usually keep it in abeyance. Empyema of the sinuses tends to rapid recovery as soon as the nostrils are made free, and it is hardly necessary in such a general paper as this to refer to the evident treatment of such cases as syphilitic ulceration and necrosis.

Make the nasal passages sufficiently free for nasal respiration, prescribe the proper unirritating, cleansing solutions, protect inflamed mucous surfaces with soothing powders or oils, and Nature will make strong and successful efforts to restore normal conditions in children.

CLINICAL MEMORANDUM.

A CASE OF ARTERIOSCLEROSIS: NECROPSY.

By HERBERT MAXON KING, M.D.,
of Grand Rapids, Mich.;
Physician to Butterworth Hospital.

On October 15, 1898, there came under my observation the following case which, while presenting nothing particularly new to pathology or symptomatology, is still in some respects sufficiently instructive to make a brief report worth while.

The patient was a man about seventy-one years of age, born in Ireland, who had lived for upward of fifty years in this country. He was a veteran of the Mexican War, had been subjected to almost all conceivable vicissitudes of climatic exposure, had all his life been a hard-working man in the capacity of cook on river steamers, and in military camps, at various times had been in the retail liquor business and, in short, up to the day before he consulted me had always been actively at work, having come to me directly from a military camp where he was employed as cook. He claimed, and I believe truthfully, never to have tasted an alcoholic beverage of any sort, never to have had any venereal disease, nor to have been confined to bed a day by illness.

His family history was very meager; his mother died at the menopause from an unknown cause. His father disappeared during the Civil War and was presumably killed in battle. One brother is living and in good health. He had had another brother and one sister, but knew nothing about them. According to his own statement his illness dated from about two weeks before he consulted me, when he became conscious of rapidly failing strength, great difficulty in the performance of his duties, shortness of breath, occasional dizziness, and muscular weakness (he had previously been a powerful man). During the previous few days he had noticed an increasing distress referable to the region of the heart amounting at times to pain. Upon inquiry I found that during the last few years he had voided urine more frequently than formerly, rising several times during the night for the purpose, but I could not determine that the amount passed in twenty-four hours was increased to any appreciable extent.

Upon examination I found him to weigh upward of 200 pounds, five feet nine inches in height, well propor-

tioned, broad shoulders, thick neck, small round head and, considering his age, of excellent muscular development, but with rather an excess of adipose. The special senses were not impaired. Aside from a sense of anxiety and "nervousness," which increased to a painful degree upon the approach of sleep, his mind and nervous system seemed normal. At all points the lungs gave a resonant percussion-note and were normal to auscultation. The area of heart dulness was slightly increased, but owing to the amount of fat intervening I could not definitely locate the apex-beat except when he stood inclining forward; it was then in the fifth interspace and within the nipple line. Auscultation of the heart revealed the most remarkable feature of the case. The first sound was replaced or obliterated by a loud, distinctly musical murmur occupying the whole systole and ending abruptly with the second sound. At the apex the musical quality of the murmur was most apparent, resembling in fact the ring of a low-pitch tuning-fork. This musical quality gradually changed as the stethoscope approached the point of maximum intensity, *i.e.*, the second right interspace close to the sternum where it was lost in a loud systolic churning sound, but at other points along the great vessels of the neck, subclavian arteries, thoracic aorta and even at the sides of the chest as low as the diaphram, the musical murmur could be distinctly heard. The spleen, liver, and kidneys were not palpable. The skin was anemic with that peculiar pallor nearly always met with in chronic heart and kidney diseases. There was slight edema of the lower extremities. The tongue was slightly coated but moist. He said that appetite and digestion were normal. The radial pulse was 40, very small, and not easily compressible. Temperature normal. The urine voided at the time of the examination was highly colored and albuminous. The centrifuge sediment contained a few hyalin and granular casts, leucocytes, and some kidney epithelium. The quantity of urine was too small to obtain the specific gravity. Quantitative analysis of the blood resulted as follows: Erythrocytes, 3,350,000 to the c.mm.; leucocytes, 7500; hemoglobin, 60 per cent.; color index, 0.89 per cent.

A provisional diagnosis of aortic stenosis and cardiac hypertrophy with an acute exacerbation supervening upon chronic diffuse parenchymatous nephritis was *allowed* after considerable hesitation, and with, I confess, much doubt. I did not think it probable from my observation that the myocardium was seriously affected, but I was by no means certain that there was not an infectious endocarditis notwithstanding the absence of temperature and leucocytosis.

The patient was kept under as close observation as was possible but allowed to go home and visit me at my office for two days, during which time I was unable to procure a sufficient quantity of urine to make a complete analysis or even to determine the specific gravity. He grew perceptibly weaker, his pulse falling to 36, but temperature still normal, and on the morning of October 17th, he went to the hospital. That night he was very restless and slept at intervals during a few moments, waking suddenly with great anxiety and sense of smothering.

On October 18th his pulse fell to 22 in the forenoon, never rising higher than 28, while his temperature reached 99.2° F. His skin, nails, and lips were frequently cyanotic. I had ordered all his urine saved, and the first twenty-four hours' urinalysis resulted as follows: Quantity in twenty-four hours, 12 ounces; reaction, acid; color, very dark; transparency, clear with considerable sediment; specific gravity, 1025; total solids, 330 grains; chlorids, 16 per cent. bulk; sulphates, 2 per cent.; phosphates, 8 per cent.; urea, 15 grains per ounce, 180 grains in 24 hours; albumin, 5 per cent.; peptones, absent; sugar, absent; bile, absent; indican, negative; diazo reaction, negative. Microscopic examination: Centrifuge sediment — Casts, few granular and hyalin, with an occasional epithelial; blood, absent; pus, present in considerable amount; crystals, urates, few; epithelial cells, from kidney and bladder.

From this urinalysis I was obliged to modify my diagnosis of the kidney lesion, and left it an open question to be decided at the autopsy. On the morning of October 19th the patient had what appeared to the nurse to be a mild uremic convulsion (probably muscular spasm from interference with circulation) and the edema increased slightly. His pulse was 40 all day, temperature normal, cyanosis at times marked. From this time on his condition grew rapidly worse. The urine, however, showed improvement under diuretic treatment. On October 20th, the quantity was 14 ounces; specific gravity, 1025; total solids, 385 grains; urea, 231 grains; albumin, 7 per cent. October 21st, quantity, 21 ounces; specific gravity, 1022; total solids, 508 grains; urea, 388 grains; albumin, 5 per cent.

Periods of mild delirium alternating with periods of consciousness, during which there was extreme anxiety and "nervousness," continued throughout. Of pain, however, the patient never complained, and the only subjective symptom was the "smothering sensation" which he invariably referred to the region of the heart.

On the night of October 23rd the patient was violent, but more from fear and anxiety than from delirium. On the morning of the 24th he seemed unusually calm and was quite rational; pulse was 40, temperature normal. A few minutes after an observation for temperature and pulse, while in the act of rising from the bed with the aid of the orderly, his heart suddenly ceased beating and death was instantaneous.

The autopsy was held four hours later, before rigor mortis had set in. Unfortunately, circumstances made a complete examination impossible and the brain was left unexamined, which, in view of the anatomic diagnosis, would probably have offered points of interest.

Of the thoracic viscera the heart and aorta were of main interest. The walls of the left ventricle were hypertrophied to 1½ times the normal thickness. There had been very perfect compensation in the left heart, as shown by absence of dilatation. The aortic valve was atheromatous, one segment being hard and immobile while smaller atheromatous patches and plates were plentiful about the opening and on the other segments. This accounts for the stenosis, and if the pa-

tient had lived long enough would probably have eventually permitted regurgitation. The right heart, especially the auricle, was much dilated, and the walls very thin, rupturing while the heart was being removed. The aorta was dilated to twice its normal size and had undergone atheromatous degeneration, elasticity having been completely destroyed. The atheromatous plates were large and projected from the surface. At death the ventricles were in diastole and consequently contained clots. The atheroma and dilatation of the aorta and the condition of the valves explain the peculiar musical quality of the murmur. The orifices of the coronary arteries were both patent and permitted the free passage of a probe to a considerable distance. Sclerosis of these arteries was not evident macroscopically. The other valves were apparently normal. There was much fat about the heart but no pericardial adhesions. Aside from a considerable hypostasis the lungs and pleuræ were normal.

Microscopically, sections of the coronaries showed sclerotic changes—a thickening and projection of the intima into the lumen of the vessel with hyalin deposits narrowing the caliber, and a slight increase of connective tissue in the media. While these changes were not as pronounced in the sections as they sometimes are they served to show the nature of the arterial degeneration going on thoughout the body.

Of the abdominal viscera, the liver and spleen were not enlarged nor macroscopically imperfect. In short, nothing of practical interest aside from the kidneys was demonstrable. The kidneys were enveloped in much fat, but were neither materially enlarged nor shrunken. The capsules were non-adherent. There was considerable congestion present but no evidence of any chronic inflammatory process unless certain whitish areas which could be seen on gross section could be mistaken for cicatricial tissue, which the microscope proved them not to be. Microscopically, within the area of these patches the parenchyma was shown to have undergone extensive hyalin degeneration. The tubes were here obliterated, as were the glomeruli. Elsewhere in both kidneys there appeared to be a very normal condition of the parenchyma, and the function of the organs was certainly not organically interfered with sufficiently to have caused death or uremia. On the other hand, the arteries and capillaries everywhere showed sclerotic changes and the hyalin deposits which interfere so materially with osmosis and allow the transudation of albumin from the circulation into the urine. Thus the diagnosis of nephritis was, strictly speaking, incorrect.

Chronic interstitial nephritis does impair, and finally destroy the parenchyma of the kidney, although itself merely a local manifestation of a general arteriocapillary fibrosis. In this case, however, the disease as affecting the kidney at the time of death was comparatively insignificant and had nothing whatever to do *directly* with the cause of death except as the kidney vessels through the common sclerotic changes added their share to the general resistance to circulation and consequent impediment to the heart's action.

It has been demonstrated that the loss of resiliency in the arteries, such as is induced by sclerotic changes, immensely increases the work of the heart. With the advance of this degeneration, therefore, it becomes only a question of time when the heart must fail and death ensue from simple inability on the part of the heart-muscle to overcome the resistance, and this may occur, as it often does, when post-mortem gross appearances are very misleading and fail to disclose sufficient morbid changes to cause death. In the case presented, "heart failure" was undoubtedly the immediate cause of death, and for the reason stated, notwithstanding the compensation in the left heart.

The anatomical diagnosis, therefore, was arteriosclerosis, under which head is included atheroma and dilatation of the aorta, aortic stenosis, hypertrophy of the left heart, dilatation of the right heart, hyalin degeneration of the kidney, and arteriocapillary fibrosis. The etiologic factors were age, and a life of hard work and exposure. Among the points of interest in the case may be mentioned: First, the misleading significance of the albumin and casts in the urine. Second, the peculiar musical quality of the murmur occasioned by the aortic atheroma; and third, the comparatively sudden and rapid breaking down of an apparently splendid physique as induced by the progressive arteriocapillary degeneration after compensation had failed to meet the requirements. Strictly speaking, of course, this is only an instance of a perfectly natural death, but I am of the opinion that the occasional study of the process of even so common a law of Nature is fraught with instructive interest.

MEDICAL PROGRESS.

Embolic Gangrene of the Hand in the Course of Purulent Pleurisy,—Desbonnets and Bosquier (*Presse Med.*, January 21, 1899) saw a man, aged forty-two years, with effusion in the left pleural cavity. Fetid pus was aspirated from it. The right arm was livid from the fingertips to the elbow and was extremely painful. There was no pulsation in the radial artery. A week later the hand was black with dry gangrene due, as the authors thought, to an embolus from the lung. The pus from the pleural cavity was found to contain no other micro-organisms except tetragenic micrococci.

Delivery of a Child through the Placenta —Bourlet and Mariage (*Jour. des Sciences Med. de Lille*, January 7, 1899) report a case of confinement in which a successful termination was obtained by an unusual procedure. They found a placenta previa and as the condition of the mother was good tampons were introduced and it was decided to await the natural course of events. Later the hemorrhage was so considerable that the placenta was torn through and podalic version was performed. Soon afterward the placenta was delivered spontaneously. The uterus contracted well and there was no cause for alarm on the part of the mother. The child appeared dead. Traction upon its tongue produced no results, but after artificial respiration had been carried out for thirty minutes its color changed and it began to breathe regularly. It

was fifty-five minutes before the child breathed independently of the artificial respiration. An examination of the placenta showed that the child had been delivered right through its center.

Pulmonary Embolus after an Operation for Hernia.—BAYER (*Centr. für Chir.*, February 18, 1899) reported an unusual complication which followed a radical operation for a reducible inguinal hernia. The wound healed by primary union. On the day following the operation the patient had an even temperature of 39° C. (102° F.). On the next day there was expectoration of fresh and clotted blood. In the lower lobe of the right lung, posteriorly, there was an area of dulness and bronchial breathing. These signs lasted for a week and then gradually disappeared. The case was diagnosed as one of pulmonary embolus resulting in hemorrhagic infarction. As the hernia was not adherent the blood-clots must have started from the separation of the veins associated with the cord.

Volvulus of the Sigmoid Three Times Relieved by Operation.—FOOTE (*Bost. Med. and Surg. Jour.*, March 9, 1899) had the unusual experience of operating upon a patient with volvulus of the sigmoid three times within eighteen months. The patient was a young man with a voracious appetite and of constipated habit. The sigmoid was an unusually large and long one, and on each occasion was twisted from right to left. At the last operation the lower portion of the sigmoid was drawn across the abdomen and stitched to the peritoneum and fascia through an incision made just above the anterior superior spine of the ilium. The patient made a good recovery and up to the time of report (two months after the operation) there was no sign of recurrence.

Resection of the Transverse Colon.—SCHWYZER (*The Med. Dial*, January, 1899) removed the whole transverse colon for carcinoma, uniting the hepatic and splenic flexures by silk sutures. The tumor involved the mesocolon and gastrocolic ligament to such an extent that it was necessary to resect in addition to the structures named a portion of the stomach and a part of the head of the pancreas. The whole omentum was, of course, sacrificed. The patient made a somewhat slow but complete recovery and in two months from the time of operation he had gained seventeen pounds in weight. He was free from pain and his bowels were acting perfectly.

Diabetic Gangrene.—GUSSENBAUER (*Wien. med. Blat.*, February 2, 1899) believes that the gangrene of diabetes is not due to the presence of sugar in the affected tissues but to the ill results which follow infective processes in the diabetic. Infection of the skin in these patients is a common accident. There is usually itching and scratching, and by this means pyogenic organisms obtain entrance. In the healthy such an invasion is followed by a strong reaction on the part of the tissues of the body, but in the diabetic person the blood has lost in large measure its power of resistance, and instead, therefore, of an acute inflammation with necrosis and casting off of the slough in the skin as is seen in the ordinary boil in the diabetic individual the necrosis takes place slowly and assumes alarming dimensions. If the gangrenous parts are thoroughly removed with the knife and the principles of asepsis and antisepsis are rigidly adhered to, both at the time of operation and afterward, the wound will heal absolutely without reaction even though extensive gangrenous portions have been removed. Gangrene of the lower extremities in diabetics is like gangrene elsewhere in their bodies in that it is nothing but an infective process arising from some break in the continuity of the skin.

THERAPEUTIC NOTES.

Treatment of Carbolic-Acid Poisoning.—HARNSBERGER (*Charlotte Med. Jour.*, February, 1899) saw a boy, aged sixteen years, within thirty minutes of the time that he had swallowed 1.5 oz. of carbolic acid. He was in a limp and comatose state, the pulse being imperceptible. A pint of cream was at once poured into the stomach which was kneaded in order to mix thoroughly the cream and the carbolic acid. Dry heat and friction were applied to the legs and arms. In two or three hours consciousness returned. The administration of cream and unskimmed milk was continued at short intervals for several hours. The patient entirely recovered in two days. Harnsberger has found that an adult can take 4 drams of pure carbolic acid mixed with cream and glycerin, or with alcohol, without any toxic symptoms developing.

Suture of a Perforated Ulcer of the Duodenum, with Recovery.—TAYLOR (*North Car. Med. Jour.*, February 5, 1899) reports one of the very few instances in which perforated duodenal ulcer has been successfully sutured. The patient was a girl, aged seventeen years, who had at different times complained of indigestion. Perforation occurred about three hours after supper, and operation was performed twelve hours later under the supposition that the appendix was involved. This prolonged the operation, but when the perforation was found it was quickly sutured. Convalescence was retarded by suppuration along the numerous gauze drains but was ultimately complete.

Operative Treatment of Varicose Veins of the Leg.—MARTIN (*Therap. Gaz.*, February 15, 1899) believes that the three methods of operative treatment of varicose veins of the leg at present in vogue all have their proper application. If the varix is of moderate degree and the vein is dilated high up, high division between ligatures performed under cocain is worth trying. If this fails multiple ligation or multiple small excisions are indicated. If the veins are enormously distended and tortuous, and particularly if they contain sacculations and thrombi, total excision is indicated. All of these operations should be followed by two-weeks' rest in bed with the leg placed upon a splint. The patient should wear a carefully applied bandage for at least a month.

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A WEEKLY JOURNAL

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EXPECTANCY OF LIFE AFTER TRACHEOTOMY, IN AMERICA.

In our column of "Notable Books," two weeks ago, reviewing Professor Landouzy's "Les Serotherapies," we laid special stress on that distinguished authority's teaching that practically no children that have been tracheotomized live to be adults. We are glad to learn from letters of Drs. Jacobi and "H.", published this week, that in America clinical experience with tracheotomy has no such ultimately fatal prognosis. Despite all that our much-lamented compatriot O'Dwyer did for laryngeal stenosis by his invention of intubation it is still at times absolutely necessary to perform tracheotomy. It would be discouraging to the surgeon to foresee that this meant inevitably a shortened life to the little sufferers even in the event of present recovery. We would welcome the details of others' experiences with tracheotomy for they will serve the very useful purpose of setting an extremely practical and important subject in its proper light, one, too, in which American ideas have been of special service to medicine and to humanity.

COMPARATIVE LONGEVITY OF DOCTORS.

Some recent French statistics show that out of every 1000 persons who have reached the biblical term of seventy years there will be found 43 clergymen, 40 farmers, 33 workmen, 32 soldiers, 29 lawyers, 27 professors, teachers, or educators, and only 24 doctors. It has, of course, long been known that the mortality among doctors is much higher than among other professional men and that their expectation of life at any given period is much less. As the collection and collation of statistics grows more exact, however, this difference against the doctor proves to be greater than was at first thought to be the case.

Infectious diseases and pulmonary affections are the two forms of fatal illness that especially add to the mortality among physicians. The statistics emphasize the necessity of care on the part of the physician in the handling of such cases; familiarity with contagious disease begets a contempt for its dangers. Physicians as a rule are notably careless of their own health. The exactest precautions in these matters, far from savoring of cowardice, are the expression of the highest qualities of that natural instinct for self-preservation which must characterize the members of the race who survive as the fittest, if they are to properly fulfil their mission in the struggle for life.

THE INCREASE OF CANCER.

Those are startling words that occur in Dr. Roswell Park's article on "A Further Study into the Frequency and Nature of Cancer" in this week's issue. *If the present increase in the death-rate from cancer continues, ten years from now, i.e., in 1909, there will be more deaths in New York from cancer than from consumption, smallpox, and typhoid fever combined.* But that the statement comes from so worthy and conservative a source, one of our best known American surgeons, who is besides recognized as a special authority on cancer and whose investigations on the subject have added so much to our knowledge that was valuable and suggestive, we should be inclined to doubt the possibility of there being any truth in the somber prophecy.

Dr. Park is not, however, alone in his conviction that cancer is rapidly on the increase. The best English and French authorities on the subject are

agreed that the affection is much more prevalent among their respective countrymen and women than it was twenty years ago. Billroth pointed out in the early '90s how rapid was the increase of cancer cases in recent decades in the Vienna General Hospital. Nothnagel in 1897 confirmed this report for later years, and in the volume on "Intestinal Diseases," in his system of "Specielle Pathologie und Therapie," reports a conversation with Billroth just before the great surgeon's death, in which they were agreed that the increase in the frequency of cancer was noticeable, not only among hospital patients and the poorer classes, but also in their private practice and among the wealthy patients. Nothnagel finds that the experience of the last five years has only confirmed this impression.

It is evident then how important a subject the etiology of cancer is becoming. State aid has been asked for its investigation and it is clear that the object is an eminently proper one. A great question of public health, one that is every year becoming more urgent and serious, is involved. If, as Professor Park's investigations and his copious gleanings from medical literature all over the world seem to indicate, the cause of cancer is a parasite, its discovery and the investigation of its biological history would probably confer upon mankind one of the greatest blessings that medical science could bestow. The subject is a most interesting one to medical men, and while no effort should be spared to make the personal observations of every cancer case as complete as possible so that it may be of scientific medical value, every member of the profession should encourage by every means in his power the present earnest effort to make the serious investigation of the etiology of cancer one of the great problems that our Empire State shall solve for her own and the world's benefit.

THE TREATMENT OF SYPHILIS.

WE publish in this number a brief résumé of the discussion on syphilis that occupied the attention of the New York Academy of Medicine at two of its stated meetings and at an additional special meeting during March. It contains some excellent practical and thoroughly up-to-date points on this ever-old yet ever-interesting subject. Some remarks made by Dr. R. W. Taylor at the first meeting, on the early treatment of syphilis, are worthy of special attention. This well-known syphilographer insists that the popular French method so widely adopted in this country of treating the patient with small doses of insoluble mercurial preparations is often a delusion. After a certain length of time these preparations fail to be completely absorbed in the digestive tract and enough of the precious drug so potent against syphilitic processes fails to be supplied to the organism. Dr. Taylor does not found his ideas, as to the failure of absorption that eventually ensues when this method is continuously employed, on any purely theoretic or empiric grounds. He has been able to demonstrate the truth of his position by finding the drug in considerable quantities in the excreta.

In recent years we have heard more and more of the necessity of lengthening the time that a patient should be under treatment for syphilis. From two to two and one-half years it extended to three and then to four or more, and now syphilographers, especially the French, insist on five or six years of primary treatment with occasional succeeding courses of treatment. More recently there have not been wanting good authorities who say that a syphilitic patient should practically be under medical supervision for the rest of his life, and at least for a number of years should take a course of specific treatment each year.

Far be it from us to discourage the thoroughly careful and solicitous interest in a patient that all this implies. Syphilis is an extremely serious ailment, but under favorable circumstances it is completely curable. The best proof of this is to be found in the fact that there are in medical literature a number of reports of cases of infection a second time showing that the virus of the first attack had been completely eradicated. It is noticeable that most of this insistence on the necessity for long-continued treatment comes from France where the esthetic sense relating to the convenience and comfort of the patient demands the simpler, less troublesome, oral medication. From Germany, where the treatment by inunction is almost universal we do not hear so much of the necessity of almost lifelong treatment.

Dr. Taylor's suggestion that inunctions of mercury will, in the course of prolonged treatment, more efficiently keep the tissues saturated to the

therapeutic degree with mercury than the simpler method by the mouth should be borne in mind. In a recent number of *Volkman's Vorträge* Professor Neisser of Breslau, the discoverer of the gonococcus, and a thoroughly advanced yet conservative investigator of venereal diseases insists that the schmier-kur (treatment by inunctions) is better than any other method. The recommendation is all the more striking as Neisser considers that now it may no longer be maintained that the mercury is mainly absorbed directly through the skin in this method as was formerly taught. Its presence on the skin leads to its constant vaporization by the body-heat and then it finds its way into the system through the lungs. The patient is kept persistently surrounded by vapor of mercury. Neisser's recommendation that the patient shall keep indoors a good deal and that the schmier-kur is better given in winter than summer, because of the constant warmth of living-rooms at this season, are interesting and practical suggestions.

PHILADELPHIA PHYSICIANS AND TYPHOID.

We publish this week in our correspondence column, the statistics of the incidence of typhoid fever in Philadelphia during the past thirteen years. Except for the four years 1888 to 1891 there has been a practically constant increase in the number of cases that have occurred in successive years. Notwithstanding this increase there has not been, as is correctly pointed out by Dr. Cleemann of Philadelphia, a corresponding increase in the death rate per 100,000; on the contrary there has been a notable decrease in the percentage mortality from the disease. Whereas more than 25 per cent. of typhoid-fever cases terminated fatally in 1886, and more than 20 per cent. in the years before 1890, there is now a mortality of scarcely more than 10 per cent. from the disease. This decrease is practically a constant one and reaches a climax in the last year. We do not know of a higher compliment that could be paid to the medical profession of Philadelphia than that contained in the simple statement of these statistics. They speak for themselves and in no uncertain tones.

Few such opportunities for the study of typhoid fever have been given to any set of medical men as those Philadelphia physicians have enjoyed during recent years and they have been improved. It seems almost invidious to particularize, yet some of the work seems to deserve special mention. The work done at the German Hospital with the bath treatment for typhoid did more to introduce this priceless therapeutic measure to the American medical profession than any other application of this method. Dr. Keen's work on the surgical complications of typhoid is one of the few modern monographs that seems destined to be a classic in medical literature. If we may judge from advance-sheets Dr. Hare's book on the "Medical Complications of Typhoid" soon to be issued will be worthy of a place beside it.

It is clear then that anything that we have said in criticism of the medical profession of Philadelphia has not been meant to apply to them as physicians but as citizens of a great city, the custody of whose public health must be their special care and charge. Surely if the profession had as a unit done its civic duty during all these years and aroused the public conscience as it was obligated to do, the present awful condition of things with regard to typhoid would not obtain. Unfortunately the immersion in the duties of an exacting profession often keeps medical men from taking that interest in public affairs that they should. This cannot, however, be accepted as an excuse when there is a serious question of public health at issue.

Philadelphia must have improvements in her water supply. What they shall be is a subject for experts, who know the conditions, to decide but they should come without further delay. It was thought a few years ago that the new reservoirs which had been constructed would allow of the subsidence of floating particles during the storage of the water and so free it from infective material. This hope has been found illusory. We understand that the consumption of water is now so great that very little if any time is allowed for subsidence in the storage-reservoirs and that even with continuous pumping the water department is barely able to supply sufficient water to Philadelphia's increased population. It is evident then that the present state of affairs will continue from bad to worse unless something effective is done. It must be done at once. There can be no sufficient excuse for delay. Palliation is impossible, the attempt at it is criminal in

the face of the statistics: for the present year up to March 25th the deaths from typhoid 463; during the last week 563 cases and 38 deaths. Precedent and procedure and politics and red tape and bribery and chicanery must all hide their diminished heads before this horrible slaughter of Philadelphia's citizens.

ECHOES AND NEWS.

Dr. A. Martin Leaves Berlin.—On April 1st Dr. A. Martin removes to Greifswald, to take the chair of gynecology at the Greifswald University.

Influenza in Paris.—During the week ending March 23d, there were 238 deaths above the average. Grip is held responsible for the increased death-rate.

Appointment by Governor Roosevelt.—On March 22d Governor Roosevelt appointed Professor Walter Francis Wilcox of Ithaca, N. Y., a member of the State Board of Health. The appointee is Associate Professor of Social Science and Statistics in Cornell University.

Gold Medal for Professor Dewar.—The first gold medal ever given by the Smithsonian Institute at Washington, D. C., is the Hodgkins' medal which was on March 20th sent to Professor James Dewar, F.R.S., of London, in recognition of his discovery of the process by which air may be liquefied.

Dr. Senn on the Army Beef.—Dr. Nicholas Senn testified before the Beef Inquiry Board at Chicago, Ill., on March 21st to the effect that the beef and bacon served to the troops in Cuba had a bad effect on their health, that the beef was not roasted, but simply boiled and cooked too much and that it was not adapted to a daily ration, was tasteless and lacked nutritious qualities.

Guarding against Yellow Fever.—The Surgeon-General of the Marine Hospital Service on March 20th detailed assistant surgeons to the various fruit ports of Central America. The surgeons detailed carry with them instructions concerning the investigation of possible yellow fever on out going vessels. All vessels receiving certificates from the surgeons will be allowed to land their cargoes in the United States without being delayed by preliminary disinfection.

The Medico-Chi Can Grant Degrees in Dental Surgery.—The Medico-Chirurgical College of Philadelphia petitioned the courts for leave to amend its charter so as to grant diplomas and degrees in dental surgery. This was resisted by the Philadelphia Dental College on the ground of want of authority to do so. The Common Pleas Court decided in favor of the Medico-Chirurgical and the Dental College appealed from the decision. The Supreme Court in an opinion by Justice Dean, has just confirmed the decision of the lower court, and dismissed the appeal.

Lord Lister Honored.—Lord Lister has been elected Foreign Associate of the Paris Academie de Medicine. "The honor," says the *British Medical Journal*, "is the highest which it is in the power of the medical profession of France to bestow. It must be all the more gratifying to the distinguished man on whom it has been conferred from the fact that the vote for him was unanimous. Professor Koch of Berlin was elected at the same time, but in his case several of the members of the Academie de Medicine abstained from recording their votes."

Professor Koch Going to South Africa Again.—Professor Koch is said to be fitting up an expedition to go to South Africa, especially to German East Africa. His intention is to study malaria and kindred diseases more fully, especially with an eye to prophylaxis, immunization, and treatment. With malaria under control Professor Koch insists that the tropics would be perfectly habitable for Europeans and Caucasians generally. He aims also to investigate more fully and locate the exact limits of the plague focus that he found on the shores of Lake Victoria Nyanza during his previous visit to Africa.

The "Medical Record" Plays with Fire.—We are not a little amused at the New York *Medical Record* for its complimentary reference in its last issue to its "classical contemporary." Would it not be well for our distinguished neighbor, when criticizing others on so delicate a subject, to take care of its own fences in the matter of the proof-reading of Latin quotations? The quotation "ad majoram (*sic*) scientiæ gloriam" is not quite the form in which the "classical contemporary" used it. We would humbly suggest to the *Record's* appreciative Latinist that the phrase *bene facta male locata male facta* would more satisfactorily express the sense which it was intended to convey if it had read *bene facta male locuta male facta. Non ne?*

State Appropriations for Hospitals.—On March 21st it was reported from Albany that the annual appropriation bill, which has passed the Assembly, has been materially changed in form by the Senate Finance Committee. Heretofore no appropriations have been included in this bill for the maintenance of the State hospitals, and money for this purpose has been levied by special tax. It has been decided by the Senate Committee to place appropriations for hospitals in the annual appropriation bill, and provision for $5,000,000 for the care of the insane has been inserted in this bill. There is also another change. Hereafter it must be designated just what amount of the appropriation given to each institution shall be expended for salaries, maintenance and expenses; this has not heretofore been done.

School of Public Health.—The Council of New York University has set apart buildings near First Avenue, between Twenty-fifth and Twenty-sixth streets, for the use of a "School of Public Health." There is a bill in the Legislature at Albany to provide $25,000 for the maintenance of the school for the year beginning October 1, 1899. It is proposed to promote public sanitation in various ways, especially to instruct properly accredited medical and lay sanitary officers throughout the State in methods and appliances for the prevention of disease.

The public will be instructed in sanitary matters by university extension work. It is expected that a hygienic museum will be established for the collection and exhibition of all forms of sanitary appliances and models in plumbing, ventilation, disinfection, heating, clothing, and other kindred subjects to be open to the public.

The Chlorin Treatment of Diphtheria.—The chlorin treatment of diphtheria has been submitted to a test experiment at the Willard Parker Hospital, New York City, during the past six weeks. Every alternate patient ill with diphtheria received the chlorin treatment and every alternate one the antitoxin treatment. In connection with the chlorin treatment tonics and general sustaining remedies were used. Dr. Winters supervised the chlorin treatment, and Dr. Berg the antitoxin. The mortality was higher, and the patients generally seemed to be decidedly worse with the chlorin treatment than those with the antitoxin. It is the opinion of those who witnessed the results that the chlorin solution seemed harmless, but useless. It produced neither good nor bad results. The course of the disease presented the picture so familiar previous to the discovery of antitoxin.

A Case of Typhus in Massachusetts.—A Russian immigrant who landed at the port of New York about fourteen days before his symptoms appeared is reported to be lying ill of typhus at Chelsea, Massachusetts. There is no question but that the disease is epidemic in many parts of Southern Russia, the famine that has threatened the country for some months having made numbers of the people especially irresistive and liable to contract what has been under similar circumstances often called famine fever, but which is really the dread typhus. An incubation period of more than three weeks is unusual for the disease but is not unheard of. It is clear then that great caution is needed in permitting immigrants from these Russian districts to land at any of our ports and that the longest possible incubation period of the disease be allowed to elapse before they are permitted the liberty of the country. While typhus has only very exceptionally been known to rage as an epidemic among a cleanly, well-fed folk experiments in this line are eminently dangerous.

First Aid to the Injured on Railways.—We called attention some months ago to the fact that in other countries, notably France and England, railroad men were being trained in the proper giving of first aid to the injured in railway accidents, and that properly prepared and packed surgical materials were readily and quickly available for the emergencies of railroad traffic. We are pleased to note that now the importance of the system as we presented it has appealed practically to at least one corporation. It is announced that the managers of the Chicago, Milwaukee and St. Paul Railroad (we welcome the opportunity to give them due credit for their truly humanitarian action) are about to start a systematic course of instruction in the principles that underlie the giving of medical and surgical first aid to the injured. We hope that other American railroads will recognize that it is a duty they owe the traveling public to see that in case of accident, the injured shall receive prompt, well-directed, trained assistance and not the ignorant, meddlesome interference now so common.

The Operation on the Pope.—There has been a good deal of indefiniteness in the statements in the daily press as to the exact nature of the cystic tumor for which an operation was recently performed on Pope Leo. The Roman correspondent of the *British Medical Journal* gives the following details: For upward of twenty-five years the Pope had had a cystic tumor in the left flank immediately above the crest of the ilium. It was hematic in character and the size of a large lemon (correspondent says citron, but this is evidently a mistake) or fetal head. It had never given any trouble until recently when considerable pain developed in it, and toward the end of February the Pope was taken ill with malaise and rise of temperature. His physician, Dr. Lapponi, decided that he was suffering from inflammation of the cyst and called Professor Mazzoni in consultation, who enucleated the cyst March 1st. The operation was done under local anesthesia as it was not thought advisable to administer chloroform to one of the Pope's age (he completed his eighty-ninth year the day after the operation, March 2d). The Pope bore the operation very well, but it was deemed inadvisable to stitch the edges of the wound because of the pain it involved so they were brought together with plaster. His temperature fell after the operation, and the wound healed slowly but satisfactorily.

American Medical Association.—The officers of the sections at the Columbus meeting will be as follows: *Practice of Medicine*—Frank Billings, Chicago, chairman; Carroll E. Edson, Denver, secretary. *Surgery and Anatomy.*—W. J. Mayo, Rochester, Minn., chairman; M. L. Harris, Chicago, secretary. *Obstetrics and Diseases of Women.*—A. H. Cordier, Kansas City, Mo., chairman; W. D. Haggard, Jr., Nashville, Tenn., secretary. *Materia Medica, Pharmacy and Therapeutics.*—Thomas H. Stucky, Louisville, Ky., chairman; Leon L. Solomon, Louisville, Ky., secretary. *Ophthalmology.*—Casey A. Wood, Chicago, chairman; Charles H. Williams, Boston, secretary. *Laryngology and Otology.*—Emil Mayer, New York, chairman; Christian R. Holmes, Cincinnati, secretary. *Diseases of Children.*—Henry E. Tuley, Louisville, Ky., chairman; L. D. Boogher, St. Louis. secretary. *Physiology and Dietetics.*—J. Weir, Jr., Owensboro, Ky., chairman; Lee Kahn, Leadville, Col., secretary. *Neurology and Medical Jurisprudence.*—Frederick Peterson, New York, chairman; Hugh T. Patrick, Chicago, secretary. *Cutaneous Medicine and Surgery.*—W. T. Corlett, Cleveland, Ohio, chairman; J. M. Blaine, Denver, Col., secretary. *State Medicine.*—Arthur R. Reynolds, Chicago, chairman; W. P. Munn, Denver, Col., secretary. *Stomatology.*—George V. I. Brown, Milwaukee, Wis., chairman; Eugene S. Talbot, Chicago, secretary.

The "Cure for Pneumonia."—The newspapers reported

some three weeks ago that a cure for pneumonia had been discovered by Professor Wasserman working in Professor Koch's Laboratory in Berlin. The item proves to be the usual newspaper canard with perhaps a shade more of foundation than there is ordinarily in newspaper accounts of supposed new discoveries in medicine. What Dr. Wasserman did publish was an account of some researches on immunity with regard to the pneumococcus which he has been conducting for some time. We gather from the *Deutsche Medicinische Wochenschrift* of March 2d, in which his article appeared, that his aim was to find the comparative immunizing value of the blood-serum and of extracts obtained from the different organs and the bone-marrow of immunized rabbits. He concludes that the organs contain no productive substances while the bone-marrow is rich in it, holding more even than is contained in the blood-serum. The protective substances are formed, therefore, in the bone-marrow whence they pass into the blood to be mainly carried in solution in the serum. Dr. Wasserman lays no claim to have made any discovery which can be utilized in the treatment of pneumonia in human beings. His paper is, like preceding papers of his that concerned themselves with the immunizing substances produced in tetanus, a distinct contribution to the general subject of immunity, but much more work will have to be done in this line before his discoveries can be utilized practically in therapeutics. Dr. Wasserman himself would, we are sure, from what we know of the thoroughly scientific character of his work have been the last to produce the impression the newspapers have given the results of his recent investigations.

William W. Van Arsdale, M.D.—At a special meeting of the Medical Board of Mt. Sinai Hospital, held March 18, 1899, the following resolutions were adopted:

The Medical Board of Mt. Sinai Hospital has learned with sorrow of the death of Dr. William W. Van Arsdale which occurred at Atlantic City on March 17, 1899. Dr. Van Arsdale had endeared himself to all the members of the medical staff by the lovable traits of his character and earned their respect by his eminent professional attainments and efficiency.

Resolved, That in the death of Dr. Van Arsdale the Medical Board has lost one of its most valuable and respected members, the institution a skilful surgeon and able scientific worker; that the sympathy of the members of the Medical Board be extended to his family in their sad loss; and finally, that these resolutions be spread on the minutes and published in the MEDICAL NEWS, *Medical Record, and New York Medical Journal.*

Resolved, That a copy of these minutes be sent to his family. (Signed.) Arpad G. Gerster, M.D., William F. Fluhrer, M.D., Committee.

Sixth International Otological Congress, 1899.—This congress is to be held in London, August 8th to 12th, under the Presidency of Dr. Urban Pritchard. The British Organization Committee, which numbers over 70 members from Great Britain and the Colonies, has Mr. A. E. Cumberbatch for its treasurer, and Mr. Cresswell Baber for its Secretary-General. The meeting will be held at the examination hall of the Royal College of Physicians of London, and Royal College of Surgeons of England, and the following details have been arranged: On Monday evening, August 7th, a preliminary reception will be held by the president elect. On August 8th, 9th, 10th, and 11th, the congress will be in session, and will be followed on Saturday, August 12th, by an excursion for members and their friends. The official languages of the congress are English, French, German, and Italian. The subscription, to include a copy of the transactions, is fixed at £1, to be paid to the treasurer, Mr. A. E. Cumberbatch, 80 Portland Place, London, W., before the opening of the congress. The subject chosen for special discussion is "Indications for Opening the Mastoid in Chronic Suppurative Otitis Media," which will be introduced by Professor W. MacEwen of Glasgow, Dr. H. Knapp of New York, Dr. Luc of Paris, and Professor Politzer of Vienna. A museum of specimens and instruments relating to otology, shown by members, will be a feature of the meeting. Communications regarding the museum should be addressed to Mr. A. H. Cheatle, 117 Harley Street, London, W. Intending members of the congress are requested to send their names to the Honorable Secretary-General as soon as possible, and in any case *not later than May 1st.* Titles of communications, together with a short abstract of the same, to be sent to the Honorable Secretary-General by the same date. According to the regulations of the congress, no papers shall exceed fifteen minutes in reading, therefore all long communications should be read in abstract.

Protests to the Legislature.—Protests against restricting the work of the New York Health Department in the production and sale of antitoxin have been recently made as follows: To the Committee on Cities of the Assembly and Senate of the State of New York.

WHEREAS, the Department of Health of New York City during the last few years has established a high standard of work in the prevention and treatment of infectious diseases, especially diphtheria, with the resulting reduction in mortality of zymotic diseases from thirteen per thousand to five and a fraction, and the reduction in the deaths from diphtheria and croup from 2870 in 1894 to 922 in 1898, and

WHEREAS, the scientific investigation carried on in the laboratories of the Department of Health have been of great value to the medical profession and to the people, not only of this city but of the whole country, and

WHEREAS, the products of these laboratories have been regarded by the medical profession of this city of very high standard, and

WHEREAS, Assembly Bill No. 451 if enacted would materially restrict and limit the work of the Department, and

WHEREAS, it is not in our opinion in the interest of the public good and should not become a law,

THEREFORE, we, the members of the Medical Board of New York Hospital, respectfully protest against the

passage of this Act, as inexpedient, harmful, and opposed to the interests of the people of the City of New York. (Signed) George L. Peabody, M.D.; A. Brayton Ball, M.D.: F. W. Murray, M.D.; W. H. Draper, M.D.; R. F. Weir, M.D.; Samuel W. Lambert, M.D.; Louis A. Stimson, M.D.; William T. Bull, M.D.

March 11, 1899.

The undersigned members of the Medical Board of Roosevelt Hospital desire to enter a protest against the passage of Assembly Bill No. 451 as a measure which would restrict and limit the admirable work of the bacteriological laboratories of the Department of Health of New York City and as a measure which is not in the interest of the people of New York City. (Signed) George L. Peabody, M.D.; George H. Tuttle, M.D.; Charles McBurney, M.D.; Francis Delafield, M.D.; W. H. Draper, M.D.; Robert F. Weir, M.D.; Wm. H. Thomson, M.D.

March 11, 1899.

CORRESPONDENCE.

A DENIAL THAT TUBERCULOSIS FOLLOWS TRACHEOTOMY, AS CLAIMED BY LANDOUZY.

To the Editor of the Medical News.

Dear Sir:—In a review of Professor Landouzy's "Clinical Lessons in Serum-therapy," which recently appeared in the Medical News the question of the expectation of life after tracheotomy is discussed, and the statement made that tuberculosis nearly always carries off tracheotomized patients within a comparatively few years after the operation. To quote further, "He now repeats the conclusion, and in the light of his riper experience and continued observation on the subject, it must carry great weight. Simon, of Paris, who has passed his life among children, does not know of a single living adult who had been tracheotomized as a child."

Such statements cannot go unchallenged, at least in New York. The undersigned is acquainted with a medical man who has been in active practice for the past fifteen years, and who, when but a few years old, had a rapid tracheotomy done upon himself with a penknife by the attending physician. He is in excellent health, and does not present any evidence of tuberculosis.

A miss of eighteen presented herself but a few months ago, and was introduced as a patient upon whom the writer had performed tracheotomy about fourteen years ago. The adopted mother with considerable pride stated that the young lady had an excellent voice and sang in a choir.

Third instance: rapid tracheotomy by Dr. D., fifteen years ago; tardy recovery because of infection of wound; the young lady was in excellent health when last heard from, about half a year ago.

In view of the reputation of the authors referred to, and the weight which their statements carry, the above experience may be of interest and worthy of a brief notice.

H.

209 East 17th Street, New York,
March 20, 1899.

THE LONGEVITY OF TRACHEOTOMIZED CHILDREN.

To the Editor of the Medical News.

Dear Sir:—As you characterize on page 340 of your issue of March 18th, Landouzy's book on "Serum Therapy" as one of "unusual interest," there is a possibility that unsophisticated readers may take his statements, many or all, as absolutely correct. At all events, it may be difficult to distinguish between those which may be taken for granted, and such as permit of modifications.

The distinguished author expresses the opinion that "in practically all cases tuberculosis carries off tracheotomized patients within a comparatively few years after the operation," and Simon is quoted as not knowing "of a single adult who had been tracheotomized as a child" (Medical News, p. 342). It is not for me to look for an explanation of the singular experience of the two famous teachers. My own, however, differs from theirs. A young man whom I tracheotomized in 1861 turned up suddenly, having for many years lived in Texas, with an extensive necrosis of the humerus some fifteen years ago, and was operated upon by Dr. F. Lange. After his recovery he returned to his State. Some four years ago I met quite accidentally a man whom Dr. Ernst Kraikowizer had operated upon forty years previously. During the last two years two gentlemen came up to me—one on a railroad train, the other in the residence of a patient—to show their cicatrices and renew an acquaintance interrupted some thirty-five years. I admit I saw nothing surprising in their being alive, nor can I see the reason why a child with laryngeal diphtheria should not share the average opportunities, after recovery.

A. Jacobi, M.D.

110 West 34th Street, New York,
March 21, 1899.

NOT A CASE OF HYDROPHOBIA.

To the Editor of the Medical News.

Dear Sir:—In the edition of the Medical News, dated March 18th, there appeared the report of a case under the heading: "An Interesting Case of Hydrophobia; Recovery."

It seems to me that this title is rather confusing as all undoubted cases of hydrophobia have been fatal. To prove that a case was one of hydrophobia we must either find by tests that the offending animal which bit the patient was mad, or by making tests from the brain or spinal cord of the victim prove him to have died from rabies. These tests are made by inoculating other animals, and are the only sure means of proving the absence or presence of rabies. If we cannot do this we must at least prove that the person has been bitten within six months, and by the symptoms of the disease demonstrate that the case was probably hydrophobia. If the patient dies we may presume it to have been a case of hydrophobia, but without more proof we could not report it as an undoubted case of the disease. If the patient should live it seems to me we should have to assume the position taken after the recovery of a case of supposed tuber-

cular meningitis, that is, that there was a mistake in the diagnosis.

In the case reported as hydrophobia the history of the bite is obscure and occurred at least a year or two before the disease developed. No authentic case reported of man or animal has had an incubation period of more than six months. Then there was no history of the offending dog. The history of the case is not like one of true hydrophobia, as people do not in that disease have to be held down, make no attempt to bite, and have no *fear* of water.

I should say that the case was one simulating hydrophobia, or of hystero-epilepsy. Yours truly,

FOLLEN CABOT, M.D.

NEW YORK, March 24, 1899.

TYPHOID IN PHILADELPHIA.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—In your remarks upon my letter of the 12th inst. you did not reply to my challenge to furnish facts or statistics to prove your assertions with regard to the typhoid mortality in Philadelphia that "matters have grown worse not better in the last fifteen years," and "the last year is the worst of the ten." Instead, you refer me to the Philadelphia health reports to give the impression, I presume, that these reports confirm your careless utterances.

This is what I find, bringing the statistics down to the end of "the last year," 1898. (Annual report Board of Health of Philadelphia for 1897, page 70.):

Years.	Deaths.	Ratio per 100,000 Inhabitants.	Ratio for 5 years.
1884	662	71.3	....
1885	610	64.2	....
1886	618	63.6	....
1887	621	62.4	....
1888	785	77.2	65.7
1889	736	70.7	....
1890	666	63.6	....
1891	683	64.0	....
1892	440	40.2	....
1893	456	40.8	55.8
1894	370	32.4	....
1895	469	40.2	....
1896	402	33.8	....
1897	401	33.0	....
1898	566*	44.6	36.5

These figures show that up to the end of last year the typhoid mortality of Philadelphia in the previous fifteen years quite steadily, and in an increasing ratio, decreased from 65.7 in the first period to 55.8 in the second, and to 36.5 in the last. This contradicts your first assertion. It is also demonstrated that there were three years in the last ten "worse" in their mortality than last year, namely, the earlier years, 1889, 1890, and 1891, the numbers 736, 666, and 683 being respectively greater than 566. This contradicts the second assertion.

RICHARD A. CLEEMANN, M.D.

PHILADELPHIA, March 20, 1899.

* The report of the Board of Health of Philadelphia for 1898 not having yet been published, the figures for that year were obtained from the Registration Office. The whole number of deaths reported from typhoid fever during 1898 was 639, but 73 of these were of soldiers in the hospitals who had been brought from distant camps, and are to be subtracted to arrive at the true number of deaths to be credited to Philadelphia.

[When we received the above we asked our correspondent to send us statistics giving the total number of cases of typhoid fever that had been reported in Philadelphia for each of the last fifteen years. He did so for the last thirteen years, the others not being available, but asked that these statistics be not incorporated in his letter. We give them below. We think they make perfectly clear what is the basis for our statements that the condition of Philadelphia with regard to typhoid has *grown worse, not better, in this last fifteen years, and that the last of the years is the worst of them all.* After all, it is the number of cases of typhoid that occur, not the deaths from the disease, which shows the infective quality of Philadelphia's water and the need for reform. One awful year, 1889, approached last year in the number of cases reported, and the years just before and after it are notably above the average, but otherwise there is shown to be a steady progressive rise in the number of typhoid cases. This increased incidence of the disease is much more than proportionate to the increase in population during the same period. The decrease in the death-rate per 100,000 during these fifteen years, as given by Dr. Cleemann, only shows that Philadelphia physicians have known how to take advantage of their wonderful opportunities (the best that have been vouchsafed to any set of medical men anywhere in recent years) to make great practical advances in the treatment of the disease, and so lessen the mortality.—ED.]

Years.	Cases.	Years.	Cases.
1886	2079	1893	2519
1887	2488	1894	2357
1888	3573	1895	2748
1889	4631	1896	2490
1890	3182	1897	2924
1891	3531	1898	4749
1892	2304		

STEAM STERILIZATION.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—The valuable article on sterilization written by Dr. Theodore Dunham which appeared in the MEDICAL NEWS of March 4, 1899, has been of much interest to surgeons, and has aroused the question in the minds of some of us if the sterilizers in general use in our hospitals are entirely satisfactory. I think in regard to most of these sterilizers that the question can be answered in the affirmative.

A series of experiments made some six or seven years ago when pressure steam sterilizers were first introduced into the Presbyterian Hospital, showed the same results as those obtained by Dr. Dunham when sterilizers of a cylindrical form were employed. It was found that when the sterilizer was in the shape of a cube the results were different, and numerous tests made at that time proved to us that even when the steam was introduced at the bottom the registering thermometers placed at the bottom, in the center, and at the top, at the expiration of ten minutes, showed practically the same degree of heat. Since the publication of Dr. Dunham's paper it was thought that perhaps these observations were not correct, and in consequence I have recently made the following tests of the steam sterilizers which we now use in the

Operating Pavilion of the Presbyterian Hospital. These tests were repeated on three occasions and the results were indentical:

(*a*) A registering thermometer was placed on the floor, another on a shelf in the center, and another at the roof of the sterilizer. At the expiration of ten minutes after the gas-stove was lighted each thermometer registered 240° F. (*b*) The thermometers were arranged as before, but the sterilizer was filled with dressings, the center thermometer being tightly rolled in a bundle of gauze and placed in the metal box. At the expiration of ten minutes the upper and lower thermometers registered 240° F., and the one enclosed in gauze registered 238° F. (*c*) The thermometers were placed as in *b*. At the end of twenty minutes each thermometer registered 245° F.

For some years I have been using in my office a sterilizer of German make in which the steam, as Dr. Dunham suggests, enters at the top of a cylinder and emerges through a tube at the bottom into a vessel filled with cold water. The temperature does not reach as high a point as that in the hospital sterilizers of American manufacture but the heat is uniform throughout. Some experiments which have been made for me by exhausting the air by means of an air-pump, before turning the steam into the sterilizer, have convinced us that there is no special advantage in any such contrivance.

Dr. Dunham has wisely chosen a subject which I feel sure is of great interest to surgeons, and many of us feel indebted to him for his investigation in this special line of work, which is of such vital importance to all operators.

Yours very truly,

ANDREW J. McCOSH.

NEW YORK, March 24, 1899.

THE BERLIN TUBERCULOSIS CONGRESS.[1]

To the Editor of the MEDICAL NEWS.

DEAR SIR:—The "German Central-Committee for the Erection of Sanitaria for Consumptives" has issued a call for a Congress to be held in Berlin, Germany, May 24 to 27, 1899, for the purpose of discussing the subject of tuberculosis. The Congress will meet in the new building of the Imperial Diet, and is under the patronage of Her Majesty, the Kaiserin, while Prince Hohenlohe, the Imperial Chancellor, will serve as Honorary President. All of the German States, also local authorities, medical faculties and societies, and all corporations interested in fighting tuberculosis have been requested to send delegates; all foreign countries represented at the Imperial Court have also been invited to take part. The United States Embassy has been requested to extend a cordial invitation to American physicians to become members of the Congress, and the same invitation has been extended through other missions to physicians of other nationalities.

As basis for discussion papers will be presented as follows: (1) "Distribution and Extent of Tuberculosis," by Geheimrath Koehler, Director of the Imperial Health Office, and Geheimrath Krieger of Strassburg; (2) "Etiology," by Professors Robert Koch and B. Fraenkel of Berlin; (3) "Prophylaxis," by Professor Gerhardt and Generaloberartz Schjerning of Berlin; (4) "Therapy," by Professors von Ziemssen of Munich, and Schroetter of Vienna; (5) "Sanitaria," by Herr Gaebel, President of the Imperial Insurance Office, Berlin, and Dr. Dettweiler of Falkenstein.

Following the presentation of the two leading papers (limited to twenty minutes each) in the respective divisions, there will be a general discussion, speakers being limited to ten minutes each. All papers and remarks are to be in German, although the chairman is empowered to make exceptions during the general discussion.

All persons interested in this subject of tuberculosis are eligible for membership; membership cards (20 marks—nearly $5) are to be obtained at the office of the Congress (Bureau des Organisations-Komites, Wilhelm Platz 2, Berlin, W.) and entitle the holder to a copy of the "proceedings." An early registration is requested.

The writer has been requested to furnish a list of Americans to whom special invitations to the Congress should be sent. He has complied with this request, so far as his personal and professional acquaintance with specialists in this line has permitted, and has also suggested to the committee that invitations be sent to the various medical societies and faculties. There are undoubtedly many American practitioners especially interested in tuberculosis, and possibly some laboratory workers, whom he has overlooked. Should any such person desire to attend the Congress, yet prefer to receive a personal invitation, the writer will be pleased to forward the name of such person upon proper introduction to the Executive Committee of the Congress. As "proper introduction" will be considered a letter from any recognized medical, scientific, or veterinary faculty, or society.

CH. WARDELL STILES, PH.D.,
Scientific Attaché, U. S. Embassy.

BERLIN, GERMANY.

[1] Written at the request of Dr. Pannwitz, General-Secretary of the Congress, and forwarded simultaneously to several American journals. The medical, veterinarian, and scientific press is requested to call the attention of its readers to this Congress.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

THE BILL FOR AN APPROPRIATION FOR PURE WATER DEFEATED—THE RELATION OF THE BILE TO INFECTIOUS DISEASES—SURGERY OF THE BILIARY PASSAGES AND GALL-BLADDER—THE RED-CROSS SOCIETY IN CUBA—SALARY POSITIONS IN THE BUREAU OF HEALTH AND THE NEW MAYOR'S POWER—A NEW CORONER AND A NEW CORONER'S PHYSICIAN—OBITUARY—HEALTH STATISTICS.

PHILADELPHIA, March 27, 1899.

SELECT Council on Friday last defeated the bill to appropriate $3,200,000 from the $11,200,000 loan for the improvement, extension, and filtration of the water-supply, notwithstanding the presence of a delegation of twenty-five or thirty members of the Citizens' Emergency Committee on Water and resolutions and communications from every important commercial, educational, and scientific association in the city. It is the opinion of those in a position to know that the beginning of any measures

looking to the relief and improvement of the water-supply has, by this action of councils, been put off for many months. Of the thirteen councilmen who voted against the measure nine are known to favor the infamous Schuylkill Water Bill, whereby the city's rights were to be bartered away, and a set of men more inimical to the city's welfare would be hard to find. The work of securing pure water must now be begun all over again involving weeks or months of delay and each week means 400 or 500 preventable cases of typhoid, each week exceeding the preceding. Over 500 deaths have occurred since January 1st and this week's number of cases exceeds any number so far recorded, but when will the limit be reached? What will the spring and summer bring forth? If an average cost of caring for one patient is placed at $200, surely a low average, and 400 cases occur each week, it means that every month of this year has so far cost the population of Philadelphia about $320,000, or for January, February, and March about $1,000,000 in round numbers. And yet Select Council (save the mark) refused to spend $3,000,000 which the city, by popular vote, demanded last year. Your correspondent honestly believes that serious trouble with the populace will eventually compel the politicians to come to terms and the day of rioting and uprising seems not far off if we are to place any credence in the press.

Dr. A. C. Abbott, City Bacteriologist, at a joint meeting of the Pathological Society and the Academy of Surgery, held March 23d, read a paper on "The Relation of the Bile to Infectious Diseases." He said that at the outside the bile has no germicidal action and is of doubtful antiseptic value. It is antitoxic, protecting against the disease from which the animal it is taken from is suffering. Sometimes organisms persist in the bile, however, when they no longer exist in any other organ. One function of the bile, that of preventing putrefaction, is accomplished, according to Dr. Abbott, more by the stimulation of peristalsis which hastens elimination before putrefactive changes occur than by any direct antiputrefactive action. It does not prevent the growth of bacteria and itself quickly undergoes decomposition. Frazer has shown that it can neutralize venoms and that inoculations of bile are preventive against them. Koch found that bile from animals suffering with rinderpest (?) when injected into other animals prevents the disease. Two explanations are given of the way in which this is accomplished: First, by attenuation of the micro-organisms, and secondly, Koler's explanation that no attenuation occurs but immunity is due to the growth of these specific organisms at the point of inoculation and by their growth the bile causes a tissue-wall to be built around them through which they cannot escape. Dr. Abbott thinks much is to be learned by different means of studying the bile, treating it as a living substance instead of a dead, just as a study of "dead" blood would fail to reveal the true character of living blood.

"Surgery of the Biliary Passages" was the title of an article by Dr. John B. Deaver in which he divided into classes the many pathological conditions found in the gall-bladder and its ducts. He presented statistics from 40 cases of his own, 10 of which were in males and 30 in females. Of the 40 cases 14 were due to cholelithiasis, the most common affection. Of the 40 there were 34 recoveries, 5 dying from shock and 1 from hemorrhage. An interesting statement by Dr. Deaver was that 50 per cent. of women with "corset" livers have gall-stones. Out of 100 post-mortems held at the German Hospital 6 subjects were found incidentally to have gall-stones. Dr. Deaver outlined his method of operation, one feature being his belief that an incision through the rectus muscle leaves less chance of a subsequent hernia and another, his infallible rule to leave a temporary fistula.

Dr. Joseph McFarland in the discussion said that post-mortems in general show gall-stones to be present in about seven per cent. of all cases. He said the largest number of gall-stonse ever found was 7802 and the largest single stone was 6 inches long by 2½ inches in diameter.

Dr. W. M. L. Coplin and Dr. Mears discussed the question. In answer to a question concerning the supposed agglutinative action of bile after typhoid infection Dr. Abbott said he had not studied it. No mention was made of the interesting communication of Cushing last spring in which he discussed this agglutinative reaction and its possible relation to the formation of gall-stones by the clumping forming nuclei for their production and one case which he reported where typhoid bacilli were found in the gall-bladder though there was no history of typhoid fever.

The Philadelphia Red-Cross Society has been asked to forward three ambulances, one wagon, and a pair of mules for work in Cuba. The work which was interrupted by the war to a certain extent is to be vigorously pushed and a Red-Cross Hospital will be established in Havana it is hoped.

When Mayor-elect Ashbridge resigns the office of coroner, on March 31st, Deputy-Coroner Dugan is to take his place. The appointment was made at the request of Mr. Ashbridge, for Mr. Dugan has been connected with the Coroner's office for nearly twenty years. The position of coroner's physician, which Dr. Henry W. Cattell resigned on his appointment as director of the Ayer Clinical Laboratory at the Pennsylvania Hospital, is to be filled by Dr. William S. Wadsworth, now Resident Pathologist at the Presbyterian Hospital and Assistant-Demonstrator of Physiology at the University of Pennsylvania.

Officials in the Board of Health, or as it is now, the Bureau of Health, are wondering when the ax will fall. The position of Chief Medical Inspector which Dr. J. Howard Taylor now holds at a yearly salary of $2300, and that of City Bacteriologist, filled by Dr. Abbott with $2000 a year, are two of the most important positions which medical men fill. Besides these are numerous assistants at salaries ranging from $2000 down to $700, and the position of Physician to the Municipal Hospital, for which Dr. Welch receives $2000 yearly. Counting the civilian positions the political power with which Mayor Ashbridge has been invested may be imagined for these positions are, of course, more numerous than the medical ones.

The total number of deaths occurring in Philadelphia,

as reported at the Health Office, for the week ending March 25th, was 530. The total number of new cases of contagious diseases was 58, reported as follows: Diphtheria, 49 cases with 18 deaths; scarlet fever, 29 cases with 2 deaths; *typhoid fever, 563 cases with 38 deaths.*

OUR LONDON LETTER.

[From Our Special Correspondent.]

THE FINANCIAL STATUS OF THE GREAT LONDON HOSPITALS—THE NEW "ORDER OF MERCY"—SPREAD OF INFLUENZA—THE NEW SCHOOL OF TROPICAL MEDICINE—THE "LANCET" UP IN ARMS.

London, March 16, 1899.

The unsatisfactory condition of the financial status of the great London hospitals, which we noted in our last letter, has been extensively commented upon by the public press during the past week. The situation at present is that there is a yearly discrepancy of some $500,000 between the even reasonably regular income of the ninety-three great hospitals—which consists chiefly of voluntary subscriptions—which has to be made up by legacies, bequests, and special donations, the aggregate of which often varies as much as $400,000 between one year and the next. The Prince of Wales' Fund was started two years ago for the purpose of making good this deficit, but so far is it from doing it that its utmost annual income, both from the interest of its sinking fund and from regular annual subscriptions, barely reaches $150,000, or less than a third of the deficit. Worse still, there is a growing conviction that much of this money instead of being clear gain, is actually drawn from the former voluntary contributions of the hospitals, attracted by the glamor of royalty and the interest of the last new thing. This has become so obvious, even to royalty itself, that H. R. H. has just launched another crusade in supplement of the original fund. This is to be known as the League of Mercy, and is to consist of a grand central council and president, with a sub-council and president for each of the parliamentary districts of London and the surrounding counties, nearly 100 in all. Each of these is to have under them thirty vice-presidents, who in turn are to be the heads of committees of twenty, each number of which is to secure annually twenty shillings from as many luckless mortals. Its a sort of mixture of the House that Jack Built and the celebrated stamp scheme. It may benefit the hospitals—pray for the peace of the community.

The feature which is expected to make it "go" is, of course, that the league is thoroughly lorded and ladied, and, as far as the supply will permit, earled and countessed all over, so that, as the irreverent Radical *Daily Chronicle* remarks, it forms "the foundation of a very fashionable body, a sort of philanthropic Primrose League, affording fine opportunities for association with the aristocracy."

We wish the League every success in its noble aim, but we can hardly persuade ourselves that this mixture of fashionable philantrophy and "beggary under arms" is either the dignified or the adequate way for a great world-city to approach the problem of the support of its hospitals. The League is also to establish an Order of Mercy, with a medal which is to be awarded for gratuitous personal services in the relief of sickness, suffering, poverty, or distress, and altogether the paths of righteousness and pure charity are to be made as flowery as possible, and virtue is to be no longer left in the disgracefully destitute condition of being its own reward.

And still the influenza spreads in London in spite of beautifully mild, bright, sunny weather for two weeks past. All practitioners report the type of the disease as quite mild, and yet the death-rate keeps steadily rising from 22 four weeks ago, to 50, 74, and last week 113 deaths per week. One cannot help suspecting that as in previous epidemics influenza, like charity, covereth a multitude of sins of careless diagnosis, and that even where it is the precipitating cause of death it acts simply by striking some previous weak point in the defences of the organism, or lighting up some smouldering internal mine like tuberculosis, fatty heart, or granular kidney. No disease in the realm of nosology threatens so much and does so little or produces so large a percentage of vivid fear of dissolution with so low a death-rate.

For the most part in this epidemic the nervous symptoms seem to predominate, and many cases are scarcely recognizable until the characteristic stage of depression sets in, and, fortunately, as might have been expected from the the general absence of catarrhal symptoms, few "secondary infections" with pneumonic and bronchitic inflammations are reported. In fact, curiously enough, the total death-rate is still below the mean average for these weeks of the year, and no marked increase in the mortality from respiratory diseases has yet occurred.

Perhaps there is something in the English prejudice in favor of private enterprise and against State aid of even public schemes. While the great Chamberlain School of Tropical Medicine, which was trumpeted abroad nearly six months ago, is still meandering through the Circumlocution Office with no prospect of emergence before next October, the private Jones School at Liverpool, initiated nearly two months later, is making arrangements for its formal opening at an early date. They have just received a letter from Koch regretting that he cannot accept their invitation to be present at the ceremony, but cordially wishing the movement success, and informing them that a similar institution is about to be established in Germany.

One of the most humorous incidents of last week was the editorial protest of the *Lancet* against the alleged throwing of the Mahdi's remains into the Nile at Khartoum. It will be remembered that after the capture of the city Lord Kitchener found it expedient to order the destruction of the tomb of the Mahdi in order to at one stroke put an end to the constant prospect of a "Holy War" for the recovery of such a sacred shrine of worship, and prove to the True Believers that their alleged prophet was unable to protect his own remains from desecration. What was done with the remnants of the body is not stated, but rumor hath it that they were cast into the Nile, although it has since transpired that the skull

and several bones are now in the possession of certain officers of the victorious expedition. Of course, the Irish in Parliament, and what Kipling calls "the poor little street-bred people, who fluster and fume and brag," have been lifting up their voices in horrified protest against "desecration of the ashes of a martyr," "outrage upon the most sacred sentiments of humanity," etc. Now comes the *Lancet*, however, also in the interests of humanity, and protests, not on account of the Mahdi, but on *account of the Nile*, the crystal purity of whose crocodile-laden waters it regards as polluted by the reception of a "demd, unpleasant, decaying body," in the language of the immortal Mr. Mantalini. Such a bad example to set before an ignorant people whom we are endeavoring to train up in the paths of sanitary righteousness! As if it would for a moment occur to the devout Soudanese that any water could possibly be polluted by the sacred relics of their adored Prophet! Or, as a matter of fact, if a few pounds of carefully embalmed remains of nearly ten-years' standing could make the slightest appreciable difference in the Nile flood or to anything in it or near it, except for a few moments of bitter disappointment to the crocodiles.

The lecture season at the Colleges of Physicians and Surgeons is now in full course. Last week Dr. Brodie completed his lectures on the "Chemistry of Toxins and Antitoxins" at the College of Surgeons, and this week Dr. Parsons is giving his course on the "Comparative Anatomy of the Joints of Vertebrates." At the College of Physicians Dr. George Murray is giving three lectures upon "The Pathology of the Thyroid Gland."

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

ANAEROBIC GERMS IN PURULENT PLEURISY—REMARKABLE POLYDIPSIA AND POLYURIA—DEATH DURING TREATMENT WITH SUPRARENAL CAPSULES IN ADDISON'S DISEASE—AN UNOBSERVED SYMPTOM OF TABES—THE PROPER STRENGTH OF A SALINE SOLUTION FOR INJECTION IN DISEASED CONDITIONS—CAPITONNAGE FOR HYDRONEPHROSIS AND FOR CYSTS OF THE LIVER—INFLAMMATION OF THE OMENTUM DUE TO THE USE OF SILK LIGATURES—THE PLACE OF SILK IN ABDOMINAL SURGERY.

AT the Medical Society of the Hospitals, February 3d, RENDU called attention to three cases of purulent pleurisy of a putrid character in which the bacteriologic examination showed the presence of anaerobic micro-organisms either alone or in combination with aerobic germs. He obtained excellent results in the treatment of the patients by irrigations with solutions of permanganate of potassium, a substance well calculated to destroy anaerobic forms of life on account of the oxygen so easily set free from it.

AUSSET showed a boy, aged four years, who suffered from polydipsia and polyuria and an indefinite general eruption. He drank about ten quarts of water per day, passing nearly as much through his kidneys, but there was no dilatation of the stomach, and the urea in the total amount of urine passed in the day varied from 10 to 20 grams (160 to 320 grains). There was no rise of temperature and no physical signs of hysteria, unless a quick temper be accounted such. He inherited both from his father's and his mother's families, and an emotional impressional temperament. On the whole, the speaker was inclined to set this case down as one of hysteria.

VARIOT mentioned that a patient of his, a child of three years, was in the habit of drinking three liters (quarts) of fluid per day. The stomach was much dilated. There was a well-marked history of polydipsia on the mother's side of the family, and an older sister who died at fifteen months was polydipsic and polyuric. The patient died, and at autopsy there were found the lesions of sclerosis at the summit of the liver, similar to those found in hereditary syphilis.

SOUGUES, GUINON, and RAYMOND all thought the patient presented was a degenerate rather than a hysterical individual.

BARTH said that he knew a young man aged twenty years, who, in the early years of his life, drank about twenty liters (quarts) of fluid per day. He had never shown any of the signs of hysteria

At the session of February 24th, RENDU reported that a patient who had long presented the symptoms of Addison's disease had been put upon the treatment by suprarenal capsules, one fresh calf's suprarenal weighing 10 or 12 grams (about one-third of an ounce) being eaten each day. On the day following the administration of the first capsule the patient complained of pain on micturition and anorexia, and the urine contained much albumin. Nevertheless, the treatment was continued, and in a week, when the general state of the patient was apparently good, he suddenly died, but without uremic symptoms. The death was looked upon as a simple coincidence, although there was no reason why there should not be a certain danger in this method of treatment, just as there is in thyroid therapy.

BECLERE looked upon the appearance of nephritic symptoms during the treatment as a pure coincidence. He had completely cured a patient of Addison's disease by the administration for a long time of large doses of suprarenal capsules, and there had never been any evidence of toxic symptoms.

GILLES DE LA TOURETTE said that a manifestation of tabes which has hitherto escaped notice is the expression of the eyes. In such patients the eyes are bright, but are almost without expression. The speaker regarded this peculiarity as an early sign of the disease. The symptom is independent of the state of contraction or dilatation of the pupil of the eye.

At the Biological Society, February 4th, VAQUEZ and BOUSQUET announced that experiments have shown that a solution of sodium chlorid to have the least effect upon the blood-cells should have a strength of one per cent., and not .7 per cent., as is usually employed. The latter is called the physiologic solution because it contains the same amount of sodium chlorid as is found in the serum in health. Frequently in patients suffering from Bright's disease, eclampsia, and diabetes the amount of chlorid of sodium is 1.1 per cent., or even 1.7 per cent.

While the injection of an artificial serum slightly different from the serum present in the blood-vessels is not dangerous, it is easy to see that the injection of serum one-third less concentrated might interfere considerably with the osmotic tendency.

At the Academy of Medicine, March 7th, Albarran presented a young woman upon whom he had performed a new operation for the radical cure of hydronephrosis by means of implication (*capitonnage*). He reduced the capacity of the sac by suture, and by anastomosis between its lowest portion and the ureter, any obstruction to the flow of water was guarded against. The hydronephrosis was due to calculus. This was removed while the large pouches which had resulted from the obstruction to the flow of water were folded and stitched with catgut in such a manner as to greatly reduce the size of the kidney. By this method no renal tissue was sacrificed. Two months later an anastomosis was made between the pelvis of the kidney and the ureter. At this second operation it was shown that a very considerable degree of retraction had followed the implication (*capitonnage*). Three months later it was shown by ureteral catheterization that the affected kidney held only 8 grams (¼ ounce) of fluid, whereas it had formerly held 400 grams (over 13 ounces).

At the Surgical Society, January 18th, Delbet showed a patient upon whom he had performed implication (*capitonnage*) four months previously for a hydatid cyst of the liver. The entire pouch was sutured. The day after the operation the patient presented grave symptoms which were ascribed to intra-peritoneal hemorrhage, but which were really due to a hydatid intoxication. The patient entirely recovered. This is the sixth case which has been so operated upon by Delbet. The results in every instance were satisfactory.

At the session of February 1st, Delbet contrasted the results of this method of treatment with those obtained by permanent drainage (*marsupialisation*). In eight patients so treated three were troubled with a fistula for two months or more, while another, whose wounds healed, suffered from the formation of a fistula at a later period. It is evident, therefore, that drainage of a hydatid cyst is not the best form of treatment, and in all cases in which it is possible Delbet avoids drainage of any sort.

At the session of February 15th, Monod called attention to the bad results which may follow the use of silk ligatures upon the omentum. He performed a radical operation for hernia upon a male patient, resecting a large portion of the great omentum and ligating its stump with silk. He made a good recovery and left the hospital in one month apparently in perfect health. Two weeks later he come back with intense pain in the left side of the abdomen where there was a well-defined swelling, extremely painful, situated just below the left costal margin. In the center of the swelling peristaltic motion could be made out. By a second laparotomy Monod relieved the obstruction to the transverse colon caused by the epiploitis.

Reynier said that the epiploitis had doubtless been caused by a septic ligature. In order to avoid such accidents he employs catgut rather than silk.

Tuffier mentioned a case in which a large part of the omentum was resected during a radical operation for hernia. There was a large tumefaction in the left flank, but this subsided without suppuration, and in six weeks had entirely disappeared.

Guinard mentioned three cases of epiploitis following resection of the omentum. In two cases an abscess formed and was opened intraperitoneally. In the third case resolution took place without suppuration.

Pozzi said that such cases as those cited show that the use of silk in abdominal surgery is a dangerous practice. He considered it equally reprehensible to ligate the adnexa with silk, expressing the opinion that a large part of the morbid phenomena which are attributed to ovarian castration are due in reality to silk ligatures. For three years he has not used silk in abdominal surgery excepting for intestinal sutures.

Hartmann thought that the ill effects mentioned might not have followed if a smaller silk had been employed.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held Thursday, March 2, 1899.

DISCUSSION ON SYPHILIS.

The President, Dr. William H. Thomson, in the Chair.

The first paper of the evening on

THE TREATMENT OF SYPHILIS IN ITS EARLY STAGES

was read by Dr. L. Bolton Bangs. He considers mercury not a specific for syphilis nor a direct antidote to its poison, but an excellent remedy for the symptoms. The most necessary thing in the treatment of syphilis is to keep the patient at the very highest level of health. Patients must live carefully and hygienically. This is the first essential. Some recover from the disease without this hygienic care but they are constantly running a great risk. At one time we thought potassium iodid as valuable as mercury but we know now that mercury sets up a fatty degeneration of the morbid products of syphilitic processes and thus leads to their absorption, while the iodids only increase absorption. Hence potassium iodid is indicated only in nervous lesions where fatty degeneration is unusual and would be harmful in states in which absorption is disturbed. Other absorbent remedies are also good on this same principle and their use should be recommended; hot baths, douches, massage, etc., all have a place in the treatment.

It must always be remembered, however, that it is patients with syphilis, not cases of syphilis that we have to treat. Every patient will have a special idiosyncrasy; in some the mouth will be often and seriously affected, in others the skin or bone and nerve lesions will manifest themselves early, etc.

As to the initial lesion Dr. Bangs always advises its

excision if it is favorably situated for removal. At least a mass of infective material is thus removed. Mercurial preparations lead to the absorption of the initial lesion so treatment should be begun at once. There are those who hesitate as to this and wait till the development of secondaries. Immediate treatment, however, keeps the patient in the best condition. As soon as we are certain of the presence of the disease begin to combat it, and as the primary and secondary lesions are the same histologically, begin treatment at once. Care is needed and the vulnerability of the patient must be consulted. There are at work in him the poison of the disease as well as the toxic drug.

As to the method of administration of the drug, by the mouth seems the best. It should be pushed to its physiological effect but should not be allowed to disturb the stomach. After a while the doses should be increased, because continuance begets custom. After administration by the mouth the method by inunctions comes next but it is hard to get patients to obey directions in this matter. When the symptoms are rapid, fulminant, and there is breaking down of tissue, subcutaneous injections should be given, but with the greatest care as death has been known to result from them.

As to length of treatment, so long as the epitrochlear glands are enlarged, in a case that has been followed from the beginning and the enlargement is known to be due to the syphilis, treatment should be persisted in. If a number of glands throughout the body are enlarged, even without a history of syphilis, suspect its presence and treat for it. Treatment should last at least three years.

DR. R. W. TAYLOR then read a paper on

THE TREATMENT OF SYPHILIS IN ITS EARLY STAGES.

This subject practically resolves itself into the treatment of secondary syphilis. Vicious methods of treatment crept in in the first half of the century; too much mercury was administered. An unfortunate, because too radical, reaction against this began about thirty years ago. The pendulum, as usual in matters therapeutic, swung too far and Ricord's methods were too much condemned and rejected. This reaction is with us yet in the treatment of syphilis by small doses of the insoluble preparations of mercury by the mouth. All these metallic compounds must be converted into peptonates and albumenoids to be absorbed and this causes a great strain on digestion. After a while they are not absorbed and this can be shown by careful analysis of the patient's excreta. They do great good at first but gradually become inert. He has for some time, therefore, given up the French interrupted method of treatment.

Treatment is indicated when the heterologous new-cell formation has begun and when the syphilitic toxins are being elaborated in the system. These processes begin when the secondaries make their appearance, so that this is the time and not before this to begin treatment. Until generalization of the syphilitic process in the system has occurred the mercury has very little to work on and does very little good. For mercury does not foster resistance to syphilitic poison in the system by anticipation but on the contrary creates a tolerance to its own action and so dulls its subsequent effect, when acuity of effect is most desired. Second, it does not suppress but retards and disturbs the order of symptoms, and this nearly always has an unfortunate effect on the subsequent course of the disease. Third, the patient should be allowed to see for himself the eruption and the enlargement of the glands. He will then realize thoroughly the constitutional nature of the disease and will follow the instructions for treatment; without the actual presence of these general symptoms he will scarcely be persuaded to submit to the inconvenience necessary for proper therapeusis. Fourth, errors as to the specificity of a supposed primary lesion are possible, even in an expert syphilologist's hands, so that it is always advisable to await the absolutely confirmatory secondary symptoms. Many a case of indurated sore has proved not to be specific and premature treatment in these cases hangs an awful cloud over a patient's life for nothing. Fifth, there is no benefit to be gained by very early treatment. Without it the course of the disease is more orderly, its symptoms more manageable; finally a very important consideration, there will be no haunting doubt left in the physician's mind as to the absolute character of the disease, if he has seen the unmistakable secondary symptoms.

When the general rash appears then is the time for treatment. In ninety-five per cent. of the cases the backbone of the disease may be effectually broken by vigorous yet judicious treatment at this time. Treatment for six months at this time is more effective than a whole year of treatment later on. It is to be remembered that syphilis runs a much severer course in delicate, nervous, anemic individuals, in the tuberculous, etc., and general treatment calculated to improve these conditions may have a place while waiting for secondaries to make their appearance. In women all syphilis seems to run a milder course and this is especially true of nervous syphilis.

It is syphilitic patients, not cases of syphilis that are to be treated, so that no iron-clad therapeutic routine for every case should be adopted. Treatment must be especially managed so as not to produce disgust or annoyance in the patient for he is already disposed by his condition to sufficient discouragement. At the beginning protoiodid of mercury in the usual doses may be given or the tannate of mercury in ½-grain doses three times a day, which has given excellent results. A fair estimate as to its effect may be obtained in fourteen days or so and the advisability of continuing the method decided. As the rash declines inunctions should be advised, as at this period the patient will be more willling to submit to the inconvenience of local treatment and so becomes accustomed to the method.

Papular and pustular lesions of hairy localities should be treated separately because of the dangers they involve of reinfection. About a dram of mercurial ointment should be used each day for fifteen days and then an interval of fifteen days allowed. The study of the excretions shows that mercury is eliminated for a month after such a course of treatment. Rest, of course, is important, not absolute rest but sufficient to keep in the

best possible general condition. A vacation at the seashore, hot and Turkish baths, but without the cold plunge, and all general hygienic measures are, of course, excellent. The administration of potassium iodid must not be delayed too long. It may be employed at first in the intervals of the mercurial treatment. It increases absorption and prevents that cell proliferation which leads to specific bone disease, pleurisy, etc.

After a year patients will seem perfectly well but no chances should be taken, and treatment should be continued in the second year for two to three months at a time with intervals of six to eight weeks so that there will be eight months of active treatment during the year.

The speaker was of the opinion that after careful, persistent treatment in this way for two to two and a half years the patient may be pronounced perfectly well. When symptoms are rapid and there is an early malignant character manifest in the disease so that tissues begin early to break down and continue to do so despite ordinary treatment, then subcutaneous injections of bichlorid must not be forgotten. They give excellent results under such circumstances and must be recognized as an efficient addition to our therapeusis of syphilis.

The next paper was on

DIFFERENTIAL DIAGNOSIS OF SYPHILITIC ERUPTIONS AND SIGNS IN THE SKIN OF FORMER SYPHILIS,

illustrated by lantern-slides and was read by Dr. George H. Fox. The illustrations gave a series of characteristic lesions of the disease as seen in a large clinical service. The multiform character of the disease was shown, yet the typical something present in practically every case despite all its multiformity, that betrayed the specific nature of the lesions was clearly brought out. The symmetrical arrangement of the cutaneous syphilides was especially illustrated. Gummatous and ulcerative lesions were pictured and the characteristics that distinguish syphilitic ulcers from lupoid or simple ulcerative processes pointed out.

The persistent circinate character of individual syphilitic lesions was brought out and the tendency of groups of lesions to arrange themselves frankly as circles, advancing at the periphery and healing at the center, or as arcs of circles or in serpiginous curves was fully illustrated. The diagnostic value of lesions in the upper third of the leg and around the knee and of scars in this region, especially when symmetrical, was pointed out. In cases without a history of syphilis the diagnosis may be made from this point alone.

Dr. R. H. M. Dawbarn in his paper on

STIGMATA OF SYPHILIS IN CHILDREN

said the mortality of congenital syphilis is so great that the best hope of treatment lies in early diagnosis of the disease. In the list presented at the last International Medical Congress at Moscow, out of 2000 cases only 25 per cent., 1 out of 4, syphilitic children survived, while out of 40 cases of acquired syphilis in children recently reported all are now living and well. The earlier treatment is instituted the better the prognosis, hence the necessity for earliest possible diagnosis. Dr. Dawbarn has collected from his own experience and the abundant literature of the subject, some 27 stigmata of syphilis that aid in early diagnosis, many of them serving to arouse suspicion of the existence of the disease when circumstances are such that it is running a latent course. Not all of them are present in any one case; most of them are not pathognomonic of syphilis, but serve only in connection with other signs to confirm the diagnosis.

Twenty-Seven Stigmata of Congenital Syphilis.

1. The description given by Diday. The syphilitic child is wrinkled and drawn in features, with a yellowish-brown *café-au-lait* color, though with it all the child may not be poorly nourished, but on the contrary may be plump and rounded.

2. Thick umbilical cord, often over long and slow to fall, leaving the child liable for a longer time than usual to septic infection through the navel.

3. Pemphigus, consisting of bullæ and blebs, at times invading the palms and soles, consisting usually of lesions vesicular in character which may be small discrete elevations but sometimes large and confluent.

4. Erythema-syphilitic roseola, invading first usually the lower abdomen, coming on commonly about the third week. Then the copper-colored patches, syphilitic pennies, as they have been called, though syphilitic farthing-pieces would be a better name. They are oftenest about the size of the babies' finger-nails. Cutaneous syphilides however, occur in only 25 per cent. of the cases of congenital syphilis.

5. Condylomata.

6. Coryza. An attack of snuffles is always suspicious in the new-born; when it persists it is almost pathognomonic. A well-known woman novelist has given great publicity to the phrase "a little old man with a cold in his head," so picturesquely descriptive of the syphilitic child.

7. Laryngeal symptoms, especially a hoarse cry.

8. Mucous patches.

9. Stomatitis especially when it becomes generalized. Hold considers a general stomatitis as a constant symptom of congenital syphilis.

10. Do not be deceived into a false sense of security as to syphilis by the absence of enlarged glands. Lymph nodular enlargement is usually absent in congenital syphilis.

11. Hemorrhages, subcutaneous or from mucous membranes.

12. White pneumonia, though this is a post-mortem sign and the specific nature of the pneumonia can only be suspected during life.

13. Hepatic enlargement but without jaundice.

14. The spleen is enlarged in over half the cases. It has been known to reach four times its normal size in three weeks.

15. The ground-glass cornea is pathognomonic. Other eye lesions occur, as iritis, but the keratitis is of most value.

16. Middle-ear disease. It is to be remembered that the Hutchinson triad of symptoms is the notched teeth,

the specific keratitis and deafness, or middle-ear symptoms without known cause.

17. Alopecia, so that the infant looks like a badly plucked fowl.

18. Orchitis.

19. Neuroses, especially epilepsy and any and all forms of palsy.

20. Bone lesions. The first and most important, the syphilitic osteochondritis of the epiphyses. Child's bones are sore. It is tender when handled. Later rickets not infrequently develops.

21. Syphilitic periostitis, the syphilitic nodes of Parrott.

22. Syphilitic dactylitis.

23. Peculiar onychia.

24. The teeth come early and decay easily and soon. It used to be said that it was unlucky for a child to be born with teeth. The foundation for the old saw would seem to be that the irritation of the osteogenic and kindred systems set up by the syphilis toxins causes early development of the teeth. Needless to say that the unluckiness of the symptom is evident in this case.

25. The Hutchinson teeth. In the permanent set of teeth the upper central incisors are pegged, apt to be separated and are notched, the enamel having disappeared from the central portion of the cutting edge. They do not always occur after congenital syphilis but only where there has been a good deal of severe and generalized syphilitic sore mouth.

26. Irregularities and asymmetry of the bony skeleton. This is often very noticeable and endures through life, constituting a stigma by which congenital syphilis may be suspected though there is no history, long years after any acute manifestations of the disease have disappeared.

27. Other enduring stigmata of congenital syphilis are bosses on the skull nodes on the long bones especially easy to recognize on the surface of the tibia, chronic fissures of the corners of the mouth or the whitish contracted cicatrices they leave after them; scars on the upper third of the legs, the remains of old syphilitic ulcers, especially significant if symmetrical.

Meeting of Thursday, March 9, 1899.

(Continuation of the Discussion on Syphilis.)

The first paper of the evening, entitled

SYPHILITIC AFFECTIONS OF THE HEART AND LUNGS,

was read by DR. LEONARD WEBER. Syphilitic affections of the heart are more frequent than those of the lungs and by a fortunate coincidence the treatment of syphilitic cardiac affections is much more successful than pulmonary syphilitic complications. Heart affections, as Adler has shown, occur alike in hereditary and acquired syphilis. In general syphilitic affections of the heart they do not occur so infrequently as is thought. The gumma or gummi, as Virchow insists it should be called, occurs quite often in the course of the disease, and endo- and peri-arteritis and endocarditis occur at times, as also a fibrous interstitial myocarditis. Gumma is the only characteristic lesion. Ehrlich has shown that hemorrhage may occur into the heart substance displacing the fibers, hampering their function, and leading to fracture of the fibers during exhaustive efforts at contraction.

Wherever there is visceral syphilis vascular syphilis also occurs and usually some syphilitic affection of the heart. The diagnosis of cardiac syphilis without external stigmata of the disease is practically impossible. When in doubt it may be made *ex juvantibus*. In young patients with irregular hearts and tendency to dyspnea with no history of rheumatism or other infection it is well not to forget syphilis. Potassium iodid and mercury will often do good. Sometimes these syphilitic heart cases in the young simulate neurasthenia very closely, or genuine neurasthenia with cardiac symptoms develops in consequence of the constitutional disease.

Among the pulmonary affections due to syphilis may be considered a proliferating tracheitis. The speaker had seen three cases of lung syphilis in women who had borne dead syphilitic children. White pneumonia and gumma of the lung are seen post-mortem but cannot be diagnosed with any probability during life. We need for the assured diagnosis of syphilitic conditions in the lungs the discovery of the syphilis bacillus so that we may demonstrate it in the sputum as we do for tuberculosis now.

PROFESSOR J. GEORGE ADAMI of McGill University, Montreal, then read a paper, entitled

SYPHILITIC AFFECTIONS OF THE LIVER IN ADULTS AND IN CHILDREN.

For the pathologist there is no distinction between the secondary and tertiary lesions of syphilis, though the division of the disease into these stages may still be useful to the clinician. Apart from the granulomata characteristic of the disease there is a generalized tissue disturbance that must be borne in mind. Syphilis in infants is congenital, not inherited. It is acquired by the fetus, not present in one of the germinal elements. As the analogy of syphilis with tuberculosis becomes more complete this fact becomes surer. There are a number of observations that go to confirm this view.

The maternal blood is carried first to the liver; if syphilis were acquired by the fetus we would expect to find this organ often affected. As a matter of fact Chiari of Prague in 122 out of 144 cases of congenital syphilis did find syphilitic affections of the liver in children examined carefully for this purpose. This view of the acquirement of so-called hereditary syphilis may seem heretical, but Professor Adami holds firmly to it. The continuation of the idea of real heredity in the matter seems but the perpetuation of a vulgar error. It is absurd to think of the germ of syphilis as latent in the ovum until the fetal period begins. Even if it were so the presence of syphilis would not be due to heredity but would be an epiphenomenon manifesting itself in a special ovum.

The most usual and earliest focal lesion in the livers of children is a collection of round cells. Comparatively early in the disease miliary gummata develop. When the liver exhibits what are usually called tertiary lesions the skin may be passing through the secondary period. Fibrosis of the liver develops relatively early. Flexner

working along the lines laid down by Adami gives bacteria a place in sclerotic changes in the liver and they play a rôle in the early development of fibrosis in syphilitic hepatitis. The fibrosis may be the result of an attempt to wall off and protect the organ from invasion or may be due to the irritation of toxins produced during the course of the disease.

Changes in the liver of children due to syphilis are much easier to classify and recognize with assurance than those of adults because the etiological problem is simpler. Other and sometimes unknown factors have not been at work and besides the time of their development can reasonably be presumed from the age of the child. The varieties of syphilitic liver affections in children are about as follows: (1) Those due to granulomatous processes or to interstitial change. (2) Minute multiple miliary gummata or isolated large ones. (3) Fibrous changes due to the irritation of toxins.

In later life the classification of syphilitic affections of the liver is not so easy. It is evident that when the secondary cutaneous lesions make their appearance lesions of the same general character are to be looked for in the viscera. These visceral changes are not, however, very noticeable or we would know more of them. Autopsies at this stage of the disease are rare and so far only the gross morbid appearances of the internal organs have been studied, the early visceral lesions being as a rule microscopical in character and not noted. This is a line of work in which great things are to be hoped for from the present universal attention to minute pathological histology.

Fagge has reported a case of indurated liver in the adult, a cirrhotic change not unlike the condition that develops in syphilitic children. It must be borne in mind that the liver is an excretory organ and as such especially liable to be flooded with the toxins of any diseased processes at work in the body. The presence of these toxins as they develop in a catarrhal hepatitis may give rise to jaundice though, of course, the jaundice may be obstructive in origin due to the pressure of enlarged glands in the hilum of the liver or to syphilitic nodular involvement of liver tissue.

Tertiary syphilis of the liver after gummatous inflammation gives rise to scars and fibroid puckerings of the organ which represent the lesions of an obsolete syphilis. In very old cases the obsolescence of the lesions has sometimes gone on to such a degree that reabsorption of the fibrous tissue has taken place so that only the puckerings remain as larval substitutes for the old process. Gummata may be large or may be small—miliary in size and may be found in the second year or may be met with long years after infection.

The hepatic lesions in the adult may be summed up about as follows: (1) Gummata. (2) Miliary lesions gummatous in character. (3) Parenchymatous hepatitis. (4) Interstitial hepatitis causing syphilitic cirrhosis. (5) Obsolete gummata. (6) Puckerings of liver substance, the stigmata that remain after obsolete gummata, though all trace of the fibrous tissue that existed here after the formation of the scar that followed the gummata has been removed by absorption. (7) Tumor-like outgrowths of liver substance simulating very closely on palpation malignant growths, and not rarely leading to mistakes of diagnosis. Usually in these tumorous formations there is an outer layer of normal hepatic tissue surrounding gummatous deposits, the pathological material at the center of the lesion being sometimes broken down or in certain stages of degeneration.

In general in adults the tendency of syphilis is toward the production of focal lesions; in children the fibroses predominate and the tendency is to the production of diffuser pathological conditions. The liver is especially affected in nearly all cases because of its importance as an organ of excretion. Hence the toxic products of the disease are delayed here during the metabolic process and effect the injury of tissue noted. In the fetus the liver first receives the blood from the placenta and so is especially liable to be affected by the disease-products from a syphilitic mother. In the liver more than anywhere else it becomes clear that it is impossible from a pathological standpoint to draw any hard and fast lines between secondary and tertiary symptoms of syphilis.

(To be continued.)

REVIEWS.

Affections Chirurgicales du Tronc. By Dr. Polaillon, Chirurgien de l'hotel-Dieu; Professeur-agrége a la Faculté de médecine de Paris. Paris: Octave Doin, 1898.

The first volume of this treatise on surgery of the trunk, published in 1896 and devoted to the thorax and its contents, has been reviewed in these columns. The two concluding volumes of this series now under consideration deal, respectively, with the surgery of the abdomen and its viscera, and the pelvis and its contents.

The work partakes of the nature of a statistical account with summaries and short observations of the most important cases. Both volumes are replete with rare and commonplace affections, many of which have been previously reported in current French periodicals.

Treatment, more than etiology or pathology, is considered, and above all, there is a striking absence of bacteriologic data; yet this deficiency is compensated for in part by the careful clinical data, being the experience of the author and his assistants for a period of nineteen years. It is, therefore, from the clinical standpoint that these two volumes commend themselves to the surgeon.

Report on the Investigations into the Purification of the Ohio River Water at Louisville, Kentucky. By George W. Fuller, Chief Chemist and Bacteriologist to the Louisville Water Company. New York: D. Van Nostrand Company, 1898.

This work, which deals principally with the bacteriological and chemical investigations of Ohio River water, both before and after filtration, is one of vast scope. All modern filters have been carefully tested and the results obtained are of vast importance to the specialist inter-

ested in the water-supplies of lage cities. It is remarkable to note what enormous advances the filtration of waters has made since the introduction of the process in London seventy years ago, and what perfection it has attained in that comparatively short interval of time.

Several chapters are devoted to a subject of considerable importance to large and small towns having need of water filtration, dealing also with the cost of the various systems and their respective efficiency. Much space is devoted to the methods of electrical purification. Chapter XV., on the "Description of the methods and devices of the water company, tested during 1897, and a record and a discussion of the results accomplished therewith," gives us the whole plan of Mr. Fuller's experiments, and the form in which they are presented is very clear and impressive.

The conclusions reached by Mr. Fuller after his most careful researches, are that the employment of coagulants, subsidence and filtration "is applicable to the satisfactory purification of the Ohio River water at Louisville," but he does not recommend the direct use of either the Warren, Jewell, or Western Systems. The appendix deals with the methods used for collection of samples and for analysis in a most concise manner. The work is well indexed, and the plates, which complete the volume, are most ably executed.

MANUAL OF ORTHOPEDIC SURGERY. By STEWART LE ROY MCCURDY, A.M., M.D., Orthopedic Surgeon to the Presbyterian Hospital and East End Free Dispensary, Pittsburgh. Pittsburgh: Published by the Author, 1898.

THE author is to be congratulated upon having produced in this small convenient volume of 336 closely printed pages more than a summary of the subject without a sacrifice of clearness in view of the terse style adopted. Definitions are concise, and classifications complete but little discussed.

The following are some of the features derogatory to the general merits of the work: The illustrations are poor and many familiar ones produced from other works are not duly credited. Among typographical errors we note "kyphose" for "kyphosis," and "coxa vera" for "coxa vara," and the the misspelling of the proper names of Burns for Bruns and Mikrelicy for Mikulicz.

Though cognizance has been taken of most of the advances in orthopedy yet gouty arthritis, habitual dislocation of the shoulder-joint, and achyllodynia receive no mention. The names of such authorities as Tallerman-Sheffield in hot-air treatment, and that of Kassowitz in connection with rickets are passed over. The treatment recommended is sound, yet we must challege such scientific vagaries as are mentioned on pp. 63 and 69, *viz.*: that tubercular abscesses can be cured by the external applications of ointments. The chapter on infantile scurvy (Barlow's Disease) is rather confused, and much of the matter therein contained is foreign to it, and belongs under the head of rickets where it is found wanting. In connection with congenital dislocation of the hip nothing is said of Lorenz's method of bloodless reduction unless we infer the author to hold the method of Paci as identical with it, which then is certainly a faulty conception. With due allowance for these deviations in this first edition we endorse this manual as worthy of the perusal of the student.

THERAPEUTIC HINTS.

Expectorant Mixture.—

℞ Apomorphin. hydrochlorat.	. .	gr. ss
Ac. hydrochlorici dil.	. . .	*m.* xxv
Syr. simpl.	. . . . .	ʒ vi
Aq. dest.	. . . . .	ʒ vi.

M. Sig. One tablespoonful every 2 to 4 hours. For a child, one teaspoonful at the same intervals.—*Beck.*

For Dental Periostitis.—

℞ Tinct. iodi, Tinct. opii, Tinct. gallæ	aa . . .	*m.* lxxx
Ac. carbolici	. . . .	*m.* viii.

M. Sig. For painting on the gums twice a day.
—*Witzel.*

For Cardiac Pain in Hysteria.—

℞ Tinct. valerianæ	. . .	ʒ ss
Liq. ferri chloridi	. . .	*m.* lxxx.

M. Sig. Twenty drops in water three times a day.
—*Gerhardt.*

For Bed-sores.—

℞ Zinci sulphat.	. . . .	gr. xlv
Plumbi acetat.	. . . .	ʒ iss
Tinct. myrrhæ	. . . .	*m.* xx
Vaselini alb.	. . . q.s.ad.	ʒ ii.

M. Sig. External use.

For Sleeplessness in Imbecile Children —

℞ Urethani	. . . . .	gr. xxiv
Glycerini	. . . . .	ʒ i
Aq. menth. piper.	. . q.s.ad.	ʒ i.

M. Sig. One teaspoonful three times a day. (For a child 5 to 10 years old.)—*Freyberger.*

To Relieve Itching in Measles and Scarlatina:—

℞ Ac. carbolici	. . . .	parts i
Ol. olivæ	. . . . .	parts xl.

M. Ft. linimentum. Sig. External use.—*Goodhart.*

For Scabies.—

℞ Styracis	. . . . .	ʒ ss
Spiritus	. . . . .	*m.* lxxx
Ol. Olivæ	. . . . .	ʒ i.

M. Ft. linimentum. Sig. For inunction.—*Liebreich.*

Aromatic Mouth-wash.—

℞ Tinct. catechu, Tinct. myrrhæ, Tinct. lavandulæ comp.	aa .	*m.* lxxv
Ol. menth. piper., Ol. anisi	aa . .	*m.* viii
Spiritus dil.	. . . q.s.ad.	ʒ iii.

M. Sig. One teaspoonful in a glass of water for rinsing the mouth.

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ORIGINAL ARTICLES.

STYPTICIN (COTARNINE HYDROCHLORATE) IN UTERINE HEMORRHAGE.[1]

BY H. J. BOLDT, M.D.,

OF NEW YORK;

PROFESSOR OF GYNECOLOGY IN THE POST-GRADUATE MEDICAL SCHOOL; GYNECOLOGIST TO THE POST-GRADUATE HOSPITAL, TO ST. MARK'S HOSPITAL AND TO THE GERMAN POLIKLINIK; CONSULTING GYNECOLOGIST TO BETH-ISRAEL HOSPITAL.

PHYSICIANS are consulted nearly as often about uterine bleeding as about any other gynecologic disorder, and hence it is an important question as to how such symptoms should be treated. No remedy has yet been found which will act as a universal panacea therefor; nor can this be expected, because of the different indications for the employment of remedies. The fault is not with a respective drug, which is unvarying in its action under similar circumstances. The error is with the doctor, in failing to recognize the respective indications and on that account selecting the wrong agent to meet them.

For about eighteen months past I have been using stypticin (cotarnine hydrochlorate) in my practice, and during the past ten months have recommended others to try it on various occasions when there has been profuse menstrual and irregular bleeding from the uterus. After giving this agent a conscientious trial for the time mentioned I find that some of my experience accords with that of other physicians who have reported their observations, while in some instances it is at variance. Stypticin[2] is a convenient name given to the hydrochlorate of cotarnine by its discoverer, Professor Martin Freund of Frankfurt-on the-Main, on account of its hemostatic properties. Cotarnine is a fractionation product by oxidation of narcotin, an alkaloid obtained from opium. Woehler demonstrated that narcotin, under the influence of oxidizing agents, can be separated into an acid, "opianic acid," and a base, "cotarnine," after the following formula:

$$C_{22}H_{23}NO_7 + O + H_2O = C_{10}H_{10}O_6 + C_{12}H_{13}NO_3\,H_2O$$

Narcotin. Opianic acid. Cotarnine.

As thus obtained, cotarnine is easily converted into its hydrochlorate (stypticin), which occurs usually as microcrystalline yellow powder, with an intensely bitter taste, and soluble in water, the solution becoming darker on exposure to light. Freund came to the conclusion that inasmuch as the course of the chemical decomposition by which cotarnine is obtained is similar to that followed in forming hydrastinin, its physiologic and therapeutic actions must also resemble those of the latter.

Hydrastin, $C_{21}H_{21}NO_6$, is separated into opianic acid and hydrastinin, $C_{11}H_{11}NO_2\,H_2O$—showing that cotarnine is, chemically, hydrastinin, in which, for one atom of displaced hydrogen, the methoxyl group OCH_3 has been substituted. This having been determined, physiologic, and therapeutic experiments were made. For the latter the new drug was referred to Dr. Sigmund Gottschalk of Berlin, who read a paper on the subject before the Gynecological Congress in Vienna in 1895.[1]

Physiologic Action.—For the details of experiments as to the physiologic action I refer to the valuable contribution of Edmund Falk[2] of the Pharmacological Institute of Berlin, and cite only his conclusions:

"1. In cold- and warm-blooded animals it produces paralysis by its action on the motor sphere of the spinal cord. In the warm-blooded a complete paralysis occurs late, usually only prior to death.

"2. It produces in the warm-blooded, by its action on the cerebrum, a mild narcotic state, but not sleep nor complete narcosis.

"3. In rabbits and dogs it is productive, by both internal and subcutaneous administration, of intestinal peristalsis and fecal evacuations.

"4. It has no direct primary influence in the warm-blooded on the heart, circulatory system, or blood-pressure. The effect on the heart, pulse, and blood-pressure are of secondary nature, through the influence of cotarnine on respiration: only in very large doses with long-continued artificial respiration, a weakened heart-action is produced.

"5. Its action on the respiratory center after transitory irritation is paralytic; respiration is, therefore, increased at first, but subsequently rapidly sinks to a quietus.

[1] Read at the Ninety-third Annual Meeting of the New York State Medical Society, held at Albany, January 31 and February 1 and 2, 1899.

[2] Cotarnine hydrochlorate: Yellow crystals soluble in water. Hemostatic, uterine sedative. Uses: Uterine hemorrhage, dysmenorrhea, fibroids, subinvolution, climacteric disorders, etc. Dose: 1–2½–5 grains, four times daily, in capsules or pearls. Injection (urgent cases): 1-3 grains in ten-per-cent. solution. — [Merck's 1899 Manual of the "Materia Medica," page 74.]

[1] Sigmund Gottschalk, "Das Stypticin bei Gebärmutterblutungen," *Therapeut. Monat.*, December, 1895.

[2] Edmund Falk, *Therapeut. Monat.*, January, 1896.

"6. Fatal termination is produced by paralysis of the respiratory center, but can at any time be kept in abeyance by artificial respiration."

Ronsse and Walton[1] explain the similar therapeutic properties of stypticin and hydrastinin on the theory that both drugs augment cardiac activity, and by their oxytocic properties. According to these observers the difference between hydrastinin and stypticin is that the former causes circulatory modifications more rapidly, acting on the heart and abdominal vessels at the same time, while the action of stypticin seems limited to the heart and is much later. They also find that stypticin slows the action of the heart in the frog and rabbit, whereas it exerts an accelerating influence in the dog; hence they utilized the latter animal in their later experiments. They find, contrary to the opinion of Falk and Marfori[2], that stypticin exerts a tonic action on the circulatory system. Comparing it again with hydrastinin they find this acts as a stimulant on the heart, like camphor and ether, whereas stypticin can be compared in its action on the heart to digitalis; hence the difference in their indication when these drugs are to be used in the control of hemorrhage. All observers agree that stypticin causes fatal termination by its paralyzing effect on the respiratory center.

Personal Observations.—After thus having stated the principal observations recorded as to the physiologic action of stypticin, I beg to place before you my personal experience with its therapeutic employment, most of which was made before seeing the literature on the subject. It was due to a simple request on the part of Dr. W. Freudenthal to try stypticin in cases of uterine hemorrhage, because he had seen good results from it in bleeding from the respiratory tract. The drug was supplied to me through the courtesy of Merck & Co., and a small quantity also by Professor Freund, to both of whom I hereby express my appreciation therefor.

I shall first classify the conditions in which the drug has been used by me, and then give further details:

1. Prolonged and profuse menstruation in unmarried anemic subjects, without any discernible change in the pelvic organs—nine cases.

2. Fibromyomata causing meno- and metrorrhagia —four cases.

3. Inoperable cancer—five cases.

4. Para- and perimetritis after abortion—three cases.

5. Para- and perimetritis after full-term deliveries—two cases.

6. Profuse and prolonged menstruation in multiparæ without anemia and without changed endometrium, but moderate enlargement of the ovaries —eight cases.

7. Irregular bleeding after the puerperium without retention of decidua or placenta, these having previously been removed with the curette—twelve cases.

8. Irregular bleeding after the puerperium with retention of small areas of placental tissue—two cases.

9. Hemorrhagic endometritis—eight cases.

10. Fungous endometritis—two cases.

11. Retroflexion with chronic endometritis—two cases.

12. Chronic metritis and endometritis — seven cases.

13. Irregular bleeding in multiparæ at the menopause—five cases.

14. Irregular bleeding without any discoverable cause—one case.

15. Subinvolution, present six weeks to four months after delivery—eleven cases.

16. Perimetritis and parametritis due to traumatism—three cases.

17. Bleeding during pregnancy—three cases.

The material for these observations was derived from my clinics and private and consultation practice. A few instances of patients who presented themselves in one of the clinics and did not return for observation are excluded from the list. The method of administration employed was principally per os, and the doses varied from half a grain to five grains until during the past two months, when subcutaneous injections were used almost entirely.

Having enumerated the classes, it is superfluous for practical purposes to give the details of each individual case, and I deem it sufficient for all clinical ends to describe one case of each group, and then to give the results of the respective class as a whole.

1. *Menorrhagia in Virgins without Detectable Changes in the Pelvic Organs.*—A. J., aged twenty years. Menstruation began at thirteen; had been regular for 5 months at intervals of 3½ to 4 weeks; then ceased for nearly a year, when the flow became re-established. At the sixteenth year the intervals were only 3 weeks, the flow continuing 5 to 8 days, being profuse and painful. Two days before the anticipated flow half grain doses of stypticin was administered at intervals of 12 hours. When the flow appeared the drug was given in ¾-grain doses at intervals of 4 hours during the first day without effect; on the second day 2½ grains was prescribed at intervals of 2 hours for three days, with the result

[1] Ronsse and Walton, *Archiv Intern. de Pharma.*, vol. iv, Fasc. iii and iv, 1898.

[2] Marfori, "Sur l'action biologique de la Cotarnine," *Arch. Ital. de Biol.*, xxviii, 2, p. 19.

that the flow diminished on the same day. No amelioration of the dysmenorrhea during the continuance of the flow. Total consumed, 15 grains.

The other eight patients of this group were put on doses of 1.5 grains every 2 hours for 4 doses at the first sign of the flow, with somewhat similar beneficial effect as to the quantity of the blood lost; but there was no marked decrease of the dysmenorrhea in either of the other two patients who also suffered from this symptom. In three patients the treatment was necessitated again at the subsequent period, with similar result; two remained symptomatically well, and in four the control was lost.

2. *Fibromyomata.*—In only one instance the flow was somewhat diminished, with a decrease of pain at the time of menstruation; in the others the effect was absolutely negative, despite the administration of 1.5 grains of the drug subcutaneously in the lumbar region.

3. *In Hemorrhage Due to Cancer.*—The effect was negative in each instance.

4. *Hemorrhage from Peri- and Parametritis after Abortion.*—Rosa Z., aged twenty-three years, married three years, was infected during the beginning of her matrimonial period with gonorrhea. One pregnancy with abortion at the third month. Uterus normal size; physiologic anteflexion, not freely movable; induration on either side and posteriorly; bleeding at intervals of 2½ to 3½ weeks, painful, of 9 to 12 days' duration. Administered ¾ of a grain every 3 hours; six doses without marked effect; Given 1.5 grains subcutaneously twice with marked effect; was, however, subsequently operated upon on account of the intermenstrual pain, and the inflamed adnexa removed. Of the other two patients one was improved, the other cured.

5. *Hemorrhage Due to Pelvic Inflammation after Full-Term Delivery.*—In both cases the condition was promptly ameliorated and hemorrhage ceased on the third and on the fifth day; the patients had been bleeding 10 and 12 days, respectively.

6. *Menorrhagia with Chronic Oophoritis.*—Mary D., aged twenty-three years; had had two children, the last fourteen months previously. Three months after delivery she again began to menstruate, but, whereas formerly the period lasted 3 to 4 days, it now continued 8 to 9 days, and the loss of blood was much larger. Stypticin on the first day diminished the quantity, and on the third day menstruation ceased entirely. In other cases of this class the remedy had a similar effect; in one none at all; and two patients were lost from further observation after improvement had been produced.

7. *Irregular Bleeding after the Puerperium, without Retention of Decidua or Placenta.*—In all of the cases in which, after the diagnosis of retained placental particles or decidua had been made and confirmed by operation, but which still continued to bleed, the remedy had a most astonishing effect.

Katie F., aged twenty-nine years, four days after confinement was still bleeding; examination showed the uterus to be large and soft, the cervix patulous. By curetting considerable detritus was removed; the bleeding, though diminished, still continued. Stypticin, 1.5 grains, was injected into the buttocks and repeated in 8 hours, with marked effect. Subsequently a few doses of ¾ of a grain were given by mouth, when complete cure was effected. In all the remaining cases the result obtained was similar.

8. *Irregular Bleeding Due to Retention of Parts of the Placenta.*—In these two instances, in which the patients declined to be curetted upon being seen in consultation, the drug was given in ½-grain doses at intervals of 12 hours, 4 doses, without producing any marked difference. Both eventually consented to an abrasio uteri, with prompt relief following.

9. *Hemorrhagic Endometritis.*—In this category the results from stypicin were not marked in any case until after an abrasio uteri had been made.

Frances J., aged thirty-one years; married 6 years; 2 children, normal deliveries; an abortion at the fourth month. For three months she had had very profuse menstruation, the flow lasting 9 to 11 days; then it ceased for 2 or 3 days, to begin again in the form of spotting for an additional period of 3 to 5 days. The uterus was of normal size and consistency and was (physiologically) anteflexed. No change in the bleeding was produced by the internal administration of stypticin. Then curettage was performed, also without more than temporary effect. Stypticin was then resumed with marked beneficial effect on the second day. At the next menstrual period stypticin was commenced two days before the anticipated flow, with the result of a perfectly normal flow of four day's duration. In six other cases of this class five patients were likewise treated with good results, in one of whom there was a marked improvement. In one case no effect at all was achieved, and subsequent control was lost of the patient.

10. *Endometritis Fungosa.*—The effect was absolutely negative—subsequent cure by curetting and local treatment.

11. *Retroflexion with Endometritis.*—These two cases were observed for two months, under stypticin administration, with but slight improvement as to the duration of the flow and quantity of blood lost. The trial was made solely for the purpose of watching the effect of the remedy; and, upon determining that it was without avail, the customary treatment was undertaken, with prompt relief.

12. *Chronic Metritis and Endometritis.*—Fanny F., aged thirty-five years; married 12 years; 3 children and 4 abortions, the last 2 years ago. For 18 months the menstrual period had been prolonged from 3 and 3½ days to 6 and 7 days, and the amount of blood lost during the first 3 days of the flow was very profuse. Examination revealed an enlargement of the uterus, but its consistency was unaltered; slight tenderness upon pressure during examination; the portio vaginalis was voluminous and the cervix lacerated without ectropion. The adnexa were normal. In this patient (as well as in the other six), stypticin alone was used, to observe its effect on the loss of blood, with the result that a moderate improvement resulted in one instance (the one detailed), the bleeding being reduced to five-days' duration, and the amount of blood lost on the respective days being smaller. In one instance there was marked improvement, and in the remainder the effect was *nil.*

13. *Irregular Bleeding at the Menopause.*—Our experience with patients who were in the climacteric age and suffered from irregular losses of blood, was very satisfactory.

Mrs. C., aged forty-seven years, had been losing blood in moderate quantities but at irregular intervals for 5 months, the intervals varying from 10 days to 5 weeks, the flowing lasting from 1 to 2 weeks. The pelvic organs showed no abnormal changes and the interior of the uterus was smooth. The drug was given in doses of ¾ of a grain, and the bleeding was completely checked in 3 days. There were 3 recurrences, but each time an almost immediate good result was obtained. In four additional cases the condition present was similar, and the action of the remedy did not differ materially.

14. *Irregular Bleeding without Apparent Cause.*—The following is an interesting example; and although I have seen similar instances on a few occasions yet they are of infrequent occurrence:

Florence M., aged twenty-nine years, married 3 years, no children, 1 abortion at 2½-months' gestation. Two years ago, about one year prior to her seeking advice, the menstrual period began to lengthen in duration from 2 to 3 days; gradually this time increased until it reached 2 weeks. She had been curetted and had received local treatment at other hands, with but temporary benefit. Another abrasio uteri, undertaken by the writer, showed nothing abnormal. The patient was then put upon stypticin, which had some beneficial effect on the third day. She was kept on the drug for 3½ months, and became entirely cured. Four menstrual periods have since passed normally. Fluid extract of hydrastis had had no effect.

15. *Post-puerperal Bleeding Caused by Subinvolution.*—In this the beneficial action was very marked. As an illustrative example the following case is cited:

Sarah C., aged twenty-eight years, mother of three children, was delivered eleven weeks previously of a medium-sized male child; all periods of the labor and puerperium were normal. She left the bed on the seventh day and one week later at intervals the still existing sanguineous discharge increased somewhat in quantity for a few days, then gradually ceased, the complete cessation continuing two weeks, when the bloody flow was reestablished and was quite profuse for 5 days, and then became less for 5 or 6 days before cessation. The next interval was of 3-weeks' duration and was followed as before. When the patient was seen she had been bleeding 4 days. Within 24 hours, upon the administration of ¾ of a grain of stypticin every 2 hours, the amount of blood began to be diminished, and the flow ceased entirely in 2½ days. In only one instance of the eleven in which the remedy was used was the result unappreciable; with this exception the therapeutic value for such indication was all that could be desired or expected.

16. *Meno- and Metrorrhagia Resulting from Traumatic Peri- and Parametritis.*—We had opportunity to observe three such cases due, in one instance, to dilatation of the cervix, and in two other instances to intra-uterine applications. In these cases successful treatment was effected with stypticin; in all three the flow of blood began to diminish twenty-four to thirty-six hours after the commencement of the drug, and was arrested completely within three and four days.

17. *Slight and Irregular Losses of Blood During Pregnancy.*—In three patients these losses were stopped with stypticin.

My house surgeon, Dr. Buddeke, used one hypodermic injection of stypticin after a delivery of placenta previa, with immediate effect on the bleeding. This would make it appear that the drug does possess some oxytocic properties; but two instances of slight bleeding at the third and at the fourth month of gestation, noted by the same observer, in which the bleeding ceased after stypticin, without abortion being produced or without even producing the slightest pain, would again throw doubt on its effect in this direction.

Conclusions.—In reviewing the action of the drug one must come to the conclusion that in certain forms of uterine hemorrhage it is almost a specific. I have found no unpleasant symptoms produced even if it was given in doses larger than usual, as has been observed in cases in which 4½-grain doses were administered. It cannot be corroborated by

me that the remedy produces a hypnotic effect, such as has been observed by Gottschalk, who attributes such effect to its being a derivative of opium.

The belief prevails, according to the experience in Gottschalk's clinic, that stypticin possesses oxytocic properties, which is held to account for the usually prompt action. This, however, has been carefully looked into by Gaertig, in the Prov. Hebammen-Lehr-Anstalt, in Breslau, under the direction of Dr. Baum. Eleven subjects were utilized to determine its effect in this direction. It was used in cases of weakened uterine contraction and for the induction of premature labor, but the result was negative. In the cases of premature labor, not a single uterine contraction was produced; in the cases of atony only in two instances mild, slightly painful contraction was observed; and the observer quite correctly remarks that it is extremely doubtful if they could be ascribed to the action of the stypticin.

For some time more attention has been devoted to operative interference for the control of bleeding from the uterus, or to some form of local treatment, the latter not infrequently with deleterious result to the patient. This was undoubtedly due to the unsatisfactory results which had been obtained from the internal remedies used in the respective cases. These remedies were few in number. With the introduction of stypticin, however, we have a very valuable new remedy, a hemostatic *par excellence* if the proper indication has been selected for the employment of the drug. In the above I have endeavored to show in which classes of cases such results may be expected. If a quick result is to be achieved, an injection into the glutei of 20 minims of a ten-per-cent solution in sterile water, with the customary antiseptic precautions, may be given without hesitation, and repeated in eight to twelve hours. Only a few days ago I saw a most marvelous result from this procedure. A woman who had been bleeding for three weeks, *post-abortum*, and who was exsanguinated from the loss of blood, was seen by me with the expectation that I should curette her. I requested her physician to use the remedy as described above, because from the examination of the pelvic organs I could not find an absolute indication for the use of the curette. After the first injection the bleeding ceased and did not recur.

I should, perhaps, make a differentiation as to the cases in which hydrastinin, hydrastin, ergot, and ergotin, and those in which stypticin can be used with best effect; but this is too great a scope for this paper, and I close this recital of my personal observations by requesting those who have tried other remedies and found them wanting, to add also stypticin to their therapeutic agents, feeling convinced that in it they will find a most useful addition, and that the curette and local treatment will be less frequently called for.

Therapeutic Review.—For the sake of greater completeness, let us now also briefly review the results of the stypticin treatment by other observers. Joseph v. Braitenberg[1] reports twenty-four cases from Ehrendoerfer's clinic at Innsbruck. A sedative action could not be substantiated, neither were disagreeable accompanying symptoms present in any instance. Doubtful or negative results were obtained in uncomplicated hemorrhagic endometritis, if no abrasio uteri had been previously performed; if, however, the bleeding recurred after curetting, the action of the drug was prompt. In hemorrhage due to displacements of the uterus, perimetritis, parametritis, or inflammatory changes of the adnexa, the results were, so far as the arrest of the bleeding was concerned, usually good. Profuse and protracted menses were shortened in duration. In hemorrhage without discernible anatomical changes the results were favorable. In hemorrhage due to fibromyomata (one case) no benefit was obtained. One case of retroflexio uteri gravidi, in which there was persistent moderate bleeding after correction of the displacement, so that an impending abortion was thought of, the bleeding ceased after the administration of seven tablets, each containing ¾ of a grain; no uterine contractions were produced and abortion did not occur.

Backofen[2] had forty cases under observation in the gynecologic clinic of Czempin at Berlin. In his experiments he excluded cases of hemorrhage due to subinvolution after the puerperium and after abortion; in such ergot was given. In virginal menstrual hemorrhage, stypticin was used five times; three times with success, and twice the result was negative; in the latter instance, hydrastis, hydrastinin, ergot, and curetting were also without avail. In menorrhagia in consequence of parametritis, or inflamed adnexa, or displacements with inflammatory processes, the results were excellent. In nine cases there was an invariably prompt action, and there could be no doubt as to its being due to stypticin. In consecutive metrorrhagia accompanying the above conditions, it also had a similar beneficent effect. In twelve cases the action was prompt eight times; once a fair result was achieved, and three times the result was negative. Consecutive hemorrhage from pedicle exudates following salpingo-oophorectomy, four cases. In two the result

[1] v. Braitenberg, *Wiener Med. Presse*, No. 35. 1898.
[2] Backofen, *Munch. Med. Woch.*, April 5, 1898.

was good, and in the other two it was negative; in the latter other remedies also failed. In two cases of acute gonorrheic infection with severe atypical hemorrhage the result was excellent. In 8 cases of subacute increase of chronic corporal endometritis (endometritis hemorrhagica) in 5 good, in 1 doubtful, and in 2 negative results were obtained. Hemorrhage at the menopause, two cases. In one the result was good, and in the other decided improvement took place with a similar good result upon recurrence of the bleeding. In one case of bleeding during pregnancy between the fourth and fifth month of gestation the result was good, and no uterine contractions were produced. In one case of myoma there was a negative result. Secondary effects were noted in two patients, in whom severe headache occurred after taking the drug; two patients had nausea and diarrhea. A sedative action, which was observed by Gottschalk and Nassauer, could not be substantiated.

H. Gaertig[1] reports on forty-six cases: Ordinary menorrhagia, 7; endometritis with hemorrhage, 11; complicated and simple retroflexion with hemorrhages, 11; subinvolution after delivery or abortion, 7; hemorrhage during the menopause, 3; hemorrhage in consequence of inflamed adnexa with retroflexion, 1 case; hemorrhage in consequence of inflamed adnexa without retroflexion, 2 cases; hemorrhage due to fibromyomata, 4; hemorrhage due to impending abortion, 1 case.

The most favorable results were obtained in the instances of uncomplicated menorrhagia, namely, six positive results out of seven cases; equally good results were obtained in the bleeding during the climacterium. The least benefit was obtained in the hemorrhage from endometritis, especially if other complications existed. In hemorrhage due to retroflexion the result was good, negative, however, if an endometritis complicated the displacement. At no time were unpleasant symptoms observed, even with large doses and long-continued use.

Max Nassauer[2] reports 49 cases as follows: Three climacteric hemorrhages, all immediate good results; hemorrhage due to subinvolution after abortion, 12 cases; in 11 excellent result, and in 1 improvement; post-puerperal subinvolution of the uterus causing hemorrhage, 2 cases; 1 excellent result, and the other a good result; myoma-uteri, 6 cases; 1 excellent result, 2 good; 2 improved, and 1 negative; menstrual hemorrhage in virgins without pathologic lesions, 2 cases, in both excellent results; imminent abortion, 1 case; result excellent; the hemorrhage ceased entirely two days after commencement of stypticin administration; in hemorrhage from adenocarcinoma of the uterus, 1 case, with benefit; reflex uterine (secondary) hemorrhage, 10 cases; in 3 excellent results were obtained, and in the other 7 good results; hemorrhage due to endometritis, 11 cases; 1 very good; 2 good; 2 improved; 1 doubtful, and in the remaining cases the result was negative. The menorrhagia in the instance of 1 scrofulous hysterical person was not bettered. Nassauer finds that stypticin has a decided sedative influence, which makes it a valuable remedy in meno- and metrorrhagia and dysmenorrhea. Unpleasant symptoms were not produced, except in patients with idiosyncrasy to opium, when it caused nausea and headache.

Sigmund Gottschalk, in 1895, reported 47 cases: Climacteric hemorrhage, 5 cases; in only 1 case the result was negative, and in this instance Gottschalk had the suspicion that a mucous polypus was present; the other 4 cases gave very good results. Secondary uterine hemorrhage, 6 cases; 5 with good result; in 1 with tubo-ovarian swelling the action of the stypticin was negative; hydrastis had the desired effect. Menstrual hemorrhage in virgins without anatomical lesion, 4 cases; 2 with good results, 1 improvement, and 1 negative. One purpura hemorrhagica, improvement. Fungous endometritis causing uterine hemorrhage, 7 cases; in 5 cases, improvement; in the other 2, negative; then curetting was done, but the hemorrhage continued, when stypticin was again used, this time with good results. Hemorrhage due to fibromyomata, 4 cases; in all a decided improvement. Hemorrhage from endometrial polypi, 3 cases; 1 improved, the other two negative; they were cured after removal of polypus. Impending abortion hemorrhage, 6 cases; in 5 abortion resulted, and in the sixth the bleeding was arrested without abortion being produced. Hemorrhage due to influenza, 2 cases; in 1 immediate cure, and in the other improvement. Puerperal subinvolution, 5 cases, all with excellent result. Hemorrhage due to subinvolution from a blood coagulum at the site of the placenta, improvement, then a slight recurrence, when an intra-uterine douche was used and the coagulum was evacuated. After this the hemorrhage ceased. Hemorrhage with superinvolution of the puerperal uterus without lactation, one case, with excellent result. Menorrhagia after curetting, 1 case, with immediate good result.[1]

[1] H. Gaertig, *Therap. Monat.*, p. 419, February, 1896.
[2] Max Naussauer, *Ibid.*, Nos. 32 and 33, 1897.

[1] Since the above writing, my colleague, Dr. A. P. Dudley, reports a case of profuse metrorrhagia due to uterine fibroid controlled promptly by stypticin given subcutaneously as described above. I have also observed the arrest of flooding in a case of interstitial fibromyoma from the administration of the drug in 2½-grain doses every two hours; also the arrest of dysmenorrhea associated with intense headache during profuse and prolonged menstruation in another case.

THE PRESENT STATUS OF PHARMACY AND ITS POSSIBLE IMPROVEMENT.[1]

By ELI H. LONG, M.D.,
OF BUFFALO;
PROFESSOR OF MATERIA MEDICA AND THERAPEUTICS IN THE UNIVERSITY OF BUFFALO.

Pharmacy has been called the handmaiden of Medicine. Its normal relation is certainly one of helpfulness and dependence. But we as physicians must remember that the helpfulness is born of a need of that help which many fail to appreciate, and also that the dependence of pharmacy implies an ability on our part to direct, to educate and to fix standards for our dependent. Furthermore, the question of ideals has more than a passing influence upon the character of pharmacy. Particularly at the present time, when it is a question whether pharmacy in the future shall be a trade with business ideals or a profession with humanitarian ideals, should this thought engage our minds. Pharmacy naturally looks to medicine for her ideals. Is she disappointed?

But let us not separate the two too widely. Pharmacy must be regarded as a part, a special branch, of medical science; and this relation is emphasized by the present tendency in medical schools, where a course in practical pharmacy is coming to be regarded as essential to the medical education.

The ability also that pharmacy has shown in meeting our needs in the way of more precise medication and pleasanter preparations, in the isolation of active principles of drugs, and in processes of assay which guarantee a certain quality of preparation should be appreciated. But in order that our respect for our helpers may not rest solely upon these achievements it is asserted that the best thought in pharmacy today is fully abreast of progress in all practical lines. If any are inclined to doubt the assertion, convincing support of the same may be found in the history of the United States Pharmacopœia during the past sixty years. In the successive revisions of this admirable book pharmacal aid has been on the increase since 1840, when it was invited to the work of revising this our standard of materia medica. In the edition of 1840 the value of pharmacal assistance was evidenced by the introduction of the process of percolation as a means of exhausting drugs. Since that time representative pharmacists have regularly participated in the work, and their interest in the book even led to their delegates outnumbering those from medical bodies at the last Pharmacopœial convention in 1890.

Corresponding with this enlarged pharmacal influence we note very great improvements in the book, among which is that of the adoption of the metric system in its formulæ.

I admit that this is taking pharmacy at its best and that some minds will at once draw a comparison with the average drug-store, which may be very disparaging to the latter; but I maintain that, in spite of the commercial atmosphere of the ordinary store, pharmacy is making a steady improvement, largely unaided by us, and that its best men are anxious to keep pace with the rapid progress of medicine in the sphere of their relation to it.

Now what are some of the evidences of improvement? *First*, in the line of literature. We find that while during the fifty years from 1829 to 1879 there were established in the United States *four* pharmacal journals, or an average of one in twelve and one-half years, during the sixteen years from 1880 to 1895 inclusive there were established *twenty*, or an average of one every ten months. *Second*, in the line of restrictive legislation. Previous to 1880 the practice of pharmacy in this country was practically unrestricted except in five States and three cities. Since 1880 there have been enacted thirty-nine State laws which originated in pharmacal bodies. These laws in the main require four-years' experience and an examination in order to license. *Third*, still greater evidence of progress is seen in the increase of Colleges of Pharmacy from *three* in 1840 to *fifty* in 1895, and this without the existence of any legal necessity of a college training on the part of pharmacists. This advance cannot be born of any commercial spirit but must be expressive of an ambition to prepare well to meet the recognized need of trained men. And the writer is convinced that the college training of pharmacists should be as broad as is possible within reasonable limits. The maxim, "A little knowledge is a dangerous thing" is probably nowhere better or more generally exemplified than in our drug-stores. The average dispenser without college training possesses some knowledge of medicine above that needed in his work and he frequently uses that knowledge improperly. But the college man, if properly trained, though possessing a larger knowledge of facts pertaining to medicine, has learned when *not* to use them. In other words our college-trained men are not as a rule engaged in illuminating the fences, in counter-prescribing, and in substituting. The commercial spirit so prominent in the pharmacy of to-day, with deficient training, must be held largely responsible for such abuses, while the progress in education, as shown in the increase of colleges, gives hope of a better state of affairs in the future.

Let us now consider another feature of our subject—one of some importance—the individual phar-

[1] Read before the Buffalo Academy of Medicine, February 14, 1899.

macist. We have drawn outlines of the picture of what he may be and we are very sure we know what he ought to be, but he is not it. Our average pharmacist of to-day is a commercial man and not the professional man we should want him to be. Why is this? The reason is not far away if we follow the path of the drug-clerk. And truly his path is not an inviting one. From the beginning of his apprenticeship as bottle-washer and errand-boy he sees the motto of the store plainly visible everywhere and that motto is—*business*. He sees how things are done behind the counter. His employer is not a professional man, may even ridicule the college graduate. In his school of experience he has learned to place highest value upon the business qualities in a clerk, and, therefore, the professional aspirations of the college man are all moonshine to him. Do not blame him too severely for he was trained in a business environment.

But it is evident that the whole atmosphere of the store is such as to favor a perpetuation of his kind unless our clerk has professional instincts and is able to rise above the level of his surroundings. Even then his advisers are likely to take the business view and remind him that he need not go to college, he can study up and pass the State or county board and get his license, and what more does he want? Now just reflect upon the situation of our clerk and imagine what will be the bent of his mind by the time he comes to be manager of a store. Add the business necessities that attach to the modern pharmacy and the question why our average pharmacist is a commercial man is largely answered.

Most colleges have abolished the requirements of a number of years of drug-store experience as a prerequisite for graduation. This must be regarded as an advance for we will probably agree that, after a certain amount of experience, the earlier the college training is had the higher will be the ideals and more ethical will be the practice of the pharmacist. A long experience of the ordinary drug-store kind, taken alone, is certainly inimical to a professional development.

But there are still other influences which help to make the pharmacist what he is. The rush of trade —soda-water, cigars, candies, and the like, the appeals to turn his windows to account through well-paying advertisements, living or otherwise, the resurrection of celebrities of the past to preside over the cigar department, etc. In such a whirl of interests how can he be expected to give scientific pharmacy his first attention. He knows that inferior fruit syrups will be criticised more than inferior drugs. He knows that the cigar customer will not wait while the prescription is being compounded, so the latter has to. In short, the average pharmacist has to subordinate the scientific to the commercial. He is not wholly to blame. The conditions and usages which he has to face require it to a great degree. But we are led to say that, from our viewpoint, while the training of the pharmacist may be said to be simply deficient in character, the prominent features of the average drug-store are an abomination.

Our pharmacist further has to undergo a certain discipline. He has not only to consult the needs of the doctor but to humor his whims. He has to bear his criticisms, not always consistent or seasoned with charity, but does not usually trust to his own tact to retaliate profitably. He is affected more than he sees fit to complain of by the changing fashions and fads in medical practice. The doctor often does the experimenting at his expense. When he is asked to stock up with a high-priced new article he cannot refuse; but when at the end of the year he finds the stock lessened by the filling of *one* prescription he murmurs not, but the balance in that transaction is on the wrong side of the page. His thoughts we will not reveal. But I do think that the educated and ethical pharmacist might be expected to regard with some contempt the physician who passes by the potent official preparations on his shelf because of ignorance of their action or inability to properly prescribe them, but calls for one after another semiproprietary mixture whose chief recommendation is its extensive advertisement. What a short step to the sale of fully patented preparations.

These thoughts come so naturally in a discussion of this topic that I will presume upon your indulgence a little farther. Legitimate pharmacy now for a number of years has had to endure serious competition from the tablet manufacturer and his ubiquitous agent. It is not proposed to discuss the comparative value of drugs in the form of their liquid extracts or in the pleasanter tablet forms; but it is evident that with certain drugs the use of tablets is to continue, and must be accepted as a normal departure. But the use of tablets, as well as of other ready-made combinations, encourages an unwholesome tendency to depend upon others for our formulæ.

And were I a pharmacist my bitterest reflection would be upon the decline of independent combining and prescribing on the part of physicians. Prescribing is destined to become a lost art unless our medical schools take warning and educate better along these lines. There are many who allow the wholesale manufacturer to do their combining, their prescribing, and I would almost say their thinking for them. The wonder is that physi-

cians will tolerate the effrontery of some manufacturers in their efforts to dictate the use of their proprietary products. But so long as they do we will find one branch of pharmacy developed to perfection, namely, the large commercial manufactory where capital employs both medical and pharmacal talent at a good figure to prepare formulæ for physicians' use, while the would-be professional and deserving retail pharmacist struggles with the question of selling patent medicines to make ends meet.

This last allusion bears upon the question of income, which will not be discussed except in relation to the drug-clerk's prospects. The decision against taking a college course is very often compelled by the meagerness of the ordinary clerk's salary. Indeed, small is the financial inducement to take a course of training which is optional, when after time and money is expended the probable income for years will not exceed $12 or $15 per week. It is said that all pharmacists save money. But that is due less to any large income or virtue on their part than to the providential conditions which compel them to stick so closely to business that they have not time to spend it.

Now as to improvement in pharmacy. Every thinking physician owes it to medical science as a whole to give serious thought to this subject. We cannot get along without pharmacy much as we may condemn the practice of the commercial pharmacist. You have doubtless seen in the foregoing remarks indications of a conviction that the medical profession is to some degree responsible for the present state of pharmacy. The writer is further convinced that no great improvement can occur without our thoughtful aid, and that the future usefulness of pharmacy requires a constant and considerate cooperation of physician and pharmacist.

Our thought must extend in five directions: To the college, to legislation, to the pharmacist, to the store, and to ourselves. In the first two our aid must be less direct, but a brief allusion will indicate what should be our attitude. The colleges of pharmacy are probably as good as they are likely to be under present conditions. They have to provide an optional course of training for students who attend voluntarily, many of whom are obliged, for financial reasons, to work in a drug-store while attending. And let me state that there are many more ambitious young men who would gladly take a college course if there were sufficient opportunities for them to aid themselves in such way, but who are obliged to content themselves with a license granted by a board of pharmacy, and they aid to swell the ranks of the less ethical because less educated pharmacists.

Pharmacy has reached that stage of educational progress when a college training should be required by law. Medicine passed that stage many years ago, and should now encourage and aid pharmacy to secure the benefits of such legislation. The results of such a law would be fewer pharmacists and better, better colleges, the development of the professional and lessening of the commercial spirit; and this is what physicians should always foster. I believe no step could result in as great improvement in a short time as the enactment of laws making a college training obligatory upon the student of pharmacy.

The objection will be here raised that the colleges will teach too much of the uses of medicines and make counter prescribers of their graduates. I do not fear this for one moment. And I repeat, for the sake of emphasis, what appears earlier in the paper, that the little knowlege of medicine possessed by the commercial pharmacist is a dangerous thing, but that the greater knowledge possessed by the professional man is a safeguard against the improper use of his knowledge. This must be just as true here as in medicine, where the better training in a special line leads to a practise restricted to that line. The college training should, therefore, be as broad as is possible within proper limits. One thing, in addition to the essentials, seems especially important. That is the study of hygiene. A knowledge of the infections and of proper sanitation would render him a valuable coadjutor to the physician in his community, where an intelligent public sentiment is so often wanting.

Our thoughts for the improvement of the pharmacist are partly involved in our previous considerations. Further than that, he should be regarded as the ally and equal of the physician, and as possessing in some directions knowledge and skill superior to the physician. Throughout this paper free use is made of the terms "commercial" and "professional" as applied to pharmacy and pharmacist. Are they not good terms to employ? They will tend to preserve in our minds the distinction between what pharmacy largely is to-day and what it should be. They will aid in discriminating between what should be aided and what should be discouraged. And we must remember that there are professional pharmacists. There is great need of more.

The same distinction will apply to stores. And we must remember that there are also professional pharmacies. In some cities there are strictly legitimate prescription pharmacies, and there might be in every city or town with the aid of the medical profession. With a knowledge of present conditions it is entirely proper, if not indeed a duty, for

physicians to discriminate between stores for the compounding and dispensing of their prescriptions. Whatever the future has in store for pharmacy, a thoughtful regard and cooperation on the part of physicians would probably lead to two kinds of stores: the professional, where chief attention would be given to compounding prescriptions, and commercial stores, where soda water, cigars, and proprietaries might be sold, scissors sharpened, bicycles mended, or anything you please.

In introducing our final direction of thought—toward ourselves—permit me to repeat that pharmacy naturally looks to medicine for her ideals. Is she disappointed? Our influence upon pharmacy, by our personal attitude toward the pharmacist, is inevitable. Our own ethical standard tends to determine his. Due courtesy toward him, therefore, will command a more careful attention to our needs, not upon the ground of policy, but because his standard of action is raised. On the other hand, an inconsiderate behavior on our part will tend to make his assistance in our practice only perfunctory, and will degrade the standard of his service. Our conception of professional ethics should be such as to lead us to treat with the utmost fairness and courtesy any one who is engaged in applying to any branch of medical science a skill supposedly equal to our own in any direction.

We should likewise exhibit a high standard in the line of education. Our attainments in those branches which are most intimately related to his practice should approach his. I feel that a plea should be made for greater efficiency in prescribing and for a more thorough acquaintance with the resources of our United States Pharmacopœia. For, beside the great benefit thereby to ourselves, we should better appreciate the work of the pharmacist, and he would not behold so monstrous and degrading a spectacle as that now presented of physicians gulled and deluded into aiding by use and by testimonial the proprietary manufacturer in the sale of his high-priced but inferior products.

SOME OBSERVATIONS UPON ERYSIPELAS AND ITS TREATMENT.

BASED UPON A NEW SERIES OF 100 CASES.[1]

By CHARLES W. ALLEN, M.D.,
OF NEW YORK;
CONSULTING DERMATOLOGIST TO THE RANDALL'S ISLAND HOSPITAL; CONSULTING SURGEON TO THE CITY HOSPITAL, ETC.

The clinical study of erysipelas has interested me for a number of years, and I have upon two previous occasions presented the results of clinical experience. In July, 1891, I published in the *American Journal of the Medical Sciences* a personal experience in fifty cases, in which paper I also reviewed and analyzed 419 cases in the City Hospital during the preceding two and one-half years. As a result of my observations at that time, I concluded that the treatment of erysipelas would be best carried out by conforming to bacteriologic findings, and that since the streptococcus had been found to grow more rapidly and luxuriantly under conditions of abundant oxygen supply, it seemed rational to attempt to shut off this supply in treating the disease. To do this, I employed collodion medicated in various ways. Of the numerous remedies tried none was found to work so well as ichthyol. Permit me to state here that so far as the remedy to employ is concerned, my paper might terminate with the statement that during the past eight years nothing has been found to take its place. There are, however, some things to be said about the manner of using the remedy, and also about a combination method for suitable cases.

Up to the time of reading my first paper at a meeting of the American Dermatological Association, in September, 1890, I had employed the method of mechanical pressure by means of an adhesive band as recommended by Wölfler in but a single instance. Its action was so manifestly efficacious that before the paper was printed I had tried it in three others, with good results in two. In a paper on "Erysipelas in Its Etiological Relation to Preceding Skin Lesion and Its Local Treatment," published in the *Medical Record* for November 23, 1895, I reported the results in fifty additional cases.

Before reverting to therapy, I would call attention to the fact that in these two series of cases a cutaneous defect of some kind was found to serve as a *porte d'entrée* for the infecting micro-organisms in no less than fifty per cent. Of the other half the throat was accused in 9 instances, nasal catarrh in 3, and lacrimal fistula in 2.

In treating and observing this last group of 100 cases, most of which have been seen since the spring of 1897, I have been struck with the frequency of coexisting or preceding nasal affections in the facial cases. In former times these were almost always put down as "idiopathic" in contradistinction to the traumatic forms or those in which some solution of continuity of tissue could be discovered. It has become my conviction that in the absence of cutaneous lesion or throat affection to account for it, the nose is the part through which ingress is effected by the cocci. In every instance of facial erysipelas observed (and the great majority have been of this variety) I have inspected the nares and

[1] Read before the Lenox Medical Society of New York, December, 1898.

made enquiry regarding nasal disease. The result has been that at least two-thirds of the patients gave evidence or history of disease.

Believing as firmly as I do in the efficacy of ichthyol, I have naturally turned to this remedy as well in combatting the process at its seat of origin, and have applied in all cases a fifty-per-cent. watery solution of ichthyol, so as to bathe the whole anterior and posterior nares as far as possible, covering over all fissures and excoriations at or near the introitus. Upon the skin surface I employed a twenty-five-per-cent. solution in collodion. The results have been surprisingly good, and I have repeatedly been able to demonstrate to my assistants and to students a complete cessation of the process, so far as symptoms, temperature, and objective signs go, within twenty-four hours of the first visit. Many other patients were discharged cured upon the second or third day. Almost all the cases were seen early, *i. e.*, in from twelve to twenty hours of the chill or earliest evidence of local inflammation.

Aside from an occasional prescription of ichthyol in pill form to correct some gastro-intestinal disturbance or something to relieve headache, no internal medication whatever has been made use of during the attack. During several years I have not given a single dose of tincture of iron in erysipelas. The adhesive band has been applied in a number of instances, usually in erysipelas of an extremity, in combination with the ichthyol paint, and always with the most gratifying results.

There have been no deaths to record in this last 100 cases so far as I have been able to follow them, or to learn from the district visiting-physician who might have seen some of the patients subsequently, although extremes of age are represented. In view of the fact that many subjects gave a history of one or more previous attacks, and the well-known tendency of facial erysipelas to recurrence, I would strongly recommend attention to the nose and throat as a prophylactic measure, and I have no doubt ichthyol will be found a useful drug in ozenas and chronic conditions requiring antiseptic and deoxidizing or reducing agents. The advantage of rubber adhesive-plaster bands over the application of several layers of contractile collodion is that the latter is apt to break at some point, and it is through this open door that the erysipelatous process is seen to advance into new territory just as water rushes through a break in a dam and overflows the plain.

I have recently treated a number of children for erysipelas of the extremities, and have had the most prompt results from what I call my "combined method." I now have about fifty cases in which the adhesive constriction has been combined with collodion painting. I feel confident that if this plan be resorted to early and be properly carried out no necessity will arise for scarification to produce a barrier, nor for resort being had to antistreptococcic serum, which, so far as I can learn, is of doubtful efficacy in severe cases in infancy and childhood.

CLINICAL MEMORANDUM.

AN OBSTINATE CASE OF PURPURA HEMORRHAGICA.

By J. H. BURCH, M.D.,
of Baldwinsville, N. Y.

The patient, Susie C., aged fourteen, a blonde, of Irish parentage, weighed at the commencement of her illness 125 pounds. Her mother and father had always been healthy, but the latter's brother had died from the effects of excessive loss of blood from a very slight scalp wound, the hemorrhage, it was said, having been uncontrollable.

The patient had been apparently strong and well-nourished up to the age of seven years, when she was suddenly attacked by epistaxis, the hemorrhage, I am told, being excessive and demanding repeated post-nasal plugging for several days. The physician in charge, Dr. Barton of Clyde, N. Y., informs me that the attack began with a pronounced chill, and that at the end of the third day purpuric spots appeared on the child's leg and abdomen. She recovered from this attack and remained in good health until September 7, 1886, when, without premonitory symptoms another attack was ushered in by a severe chill, followed by high fever, her temperature at 9 A.M. being 105° F. and her pulse 150, very weak and feeble.

On September 8th her temperature was 100° F. and her pulse 120. The following day her temperature was normal and she felt fairly well and seemed to be in a fair way toward a rapid recovery, but on September 11th she again had a very severe chill which was followed by high fever, her temperature reaching 105° F. This was followed by sweating and a reduction of temperature. During the sweating stage an oozing of blood from the mucous membrane of the gums and mouth occurred, which was controlled with considerable difficulty by strong, astringent mouth-washes. The next morning, September 12th, she was unable to retain nourishment, the ejections from the stomach being mixed with blood. Nausea and vomiting then became a constant symptom, each ejection containing blood. During the evening of the same day hematuria developed, the urine being scanty, smoky, and containing one-half of one per cent. of albumin and granular and epithelial casts and blood. The next day her condition remained about the same, her maximum temperature being 103° F. and pulse 160, the latter very weak but steady.

On the 13th her condition was much better; the vomiting had ceased but the urine was still bloody and contained albumin and epithelial and granular casts. Her maximum temperature was 100° F. and pulse 100 and

stronger. During the night she was bathed in a cold, clammy perspiration, and a marked jaundice manifested itself. The sclerotics were yellow, as were also the face and neck. I also noticed for the first time purpuric spots on the left arm and ankle.

On September 14th her general condition was better, the icterus and hematuria being less pronounced, but the purpuric spots were beginning to appear on her abdomen. At three o'clock in the afternoon I was called in great haste and found her nearly exsanguinated, there being a profuse hemorrhage from the left nostril. The nostril was immediately plugged with iodoform gauze, which controlled the bleeding. The next day she was much better. The hematuria was disappearing, albumin was present to the amount of ¼ of 1 per cent., but there were no more casts. On September 16th I removed the tampon from the nostril but as this was followed by excessive hemorrhage another was introduced. On September 18th I again removed the tampon from the nostril but the hemorrhage was again excessive, demanding replugging. On September 19th the purpuric eruption disappeared and her general condition was much better, her temperature being normal and her pulse 90 and stronger. On the following day I again removed the tampon from the nostril, but the hemorrhage was so profuse that I at once replugged it, using strips of sterilized gauze saturated with a 20-per-cent. solution of antipyrin. On September 22d I once more removed the tampon and no hemorrhage followed. She made a good recovery and remained apparently well until February 5, 1898, when, without premonitory symptoms she had a severe chill which was followed by well pronounced fever and sweating.

On February 6th she felt fairly well, but on the following morning she was again stricken with a severe chill, followed by a profuse hemorrhage from the left nostril. I was hastily called and found her in a state of collapse. Her pulse was scarcely perceptible and was weak and thready. The extremities were cold and bathed in a clammy perspiration. I immediately plugged the nostril, both anteriorly and posteriorly, with gauze, but the blood continued to ooze drop by drop. I then removed the tampons and replaced them very carefully with tampons of absorbent cotton, saturated with 1 to 1000 bichlorid-of-mercury solution. The plugs were carried far back into the posterior nares and the whole nostril was very firmly packed. This controlled the hemorrhage, and it was indeed time, as the patient was rapidly sinking. By the aid of heat and stimulants, hypodermically administered, she gradually revived and when I left her temperature was 99° F. and her pulse 160, very weak and compressible.

During the profuse hemorrhage I collected about ten cubic centimeters of blood as it flowed from the nostrils, and fully verified the observations of Hayem, which were afterward confirmed in sixteen cases reported by Beusaude[1] of Montpelier, in regard to the non-retractibility of the clot and the formation of serum. The blood in this case, as in the greater number of the graver cases reported by Beusaude, showed no tendency whatever to clot but remained entirely fluid.

[1] *Semaine Medicale*, June 20, 1897.

At 3.30 in the afternoon I was again hastily called and found the patient bleeding profusely from the right nostril, which I was also obliged to plug in order to control the hemorrhage. On February 8th, she had a pronounced chill, her feet, legs, and hands being icy cold. The chill continued twenty minutes, her temperature then rising to 105° F. During the night she slept somewhat and was bathed in perspiration. She vomited a little blood, which was thick and of a dark color. The area of hepatic dulness had not increased, nor had that of the spleen. The urine was of a dark color, the specific gravity being 1028. The reaction was distinctly acid. Carefully centrifugalized sediment revealed only a few crystals of uric acid and squamous epithelium. I pierced a lobe of the ear to obtain a drop of blood for examination, and a small stream issued forth from the puncture, which was so difficult to control that I was obliged to apply a compress of styptic cotton for more than half an hour. A microscopic examination of several specimens of fresh blood for the plasmodium malariæ revealed nothing suspicious. A blood-count (Toma-Zeisse) showed the number of red blood-corpuscles to be 3,800,000 per cubic millimeter, and the leucocytes, 10,000 per cubic millimeter, the increase being manifested mostly in regard to the polymorphonuclear cells; hemoglobin was thirty-five per cent. A dried specimen, stained after the method of Ehrlich, revealed simple anemia, both red and white cells being fairly normal in appearance. During the afternoon of that day her temperature was 104° F., and her pulse about 180, but so weak and rapid that it was very difficult to count it accurately. The heart sounds were distinct. The bowels moved five times during the day, the ejections being of a thin, brownish character. There was some ileocecal gurgling. Nothing could be retained in the stomach except Valentine's beef-juice, only a few drops of which could be given at a time. The drugs employed at this time were strychnin sulphate, $\frac{1}{30}$ of a grain every four hours, and 10 minims of aromatic sulphuric acid every three hours.

On February 9th her temperature was 101° F., and the pulse 150, the latter weak but regular. The coating of the tongue was dry and brownish. The bowels had moved but twice during the night, and she had vomited but twice. Some sleep had been obtained, and her general appearance was improved. The area of splenic dulness was increased, and the urine was clear and dark-brown in color, and contained a trace of albumin and epithelium. The blood-count showed the red cells to be 3,500,000 per cubic millimeter; white cells 12,000 per cubic millimeter; hemoglobin 35 per cent. The stained specimens began to show slight poikilocytosis and the Maragliano reaction. The nuclei of the white cells showed evidence of fragmentation. The Widal Johnson reaction was negative. The bowels moved twice that day, and she vomited but once, and retained beef-juice in larger quantities. The tampons were removed from the nostrils, which resulted in excessive hemorrhage, demanding immediate replugging.

On the morning of the 10th her temperature was 101° F. and pulse 120. She had slept fairly well. The menses

appeared that morning but were not at all profuse. The urine was of a dark-brown color, the specific gravity being 1028. It contained one-half of one per cent. of albumin, and a small amount of epithelium. The blood-count was: red cells, 3,400,000 per cubic millimeter, and white cells, 12,000 per cubic millimeter. Stained specimens showed distinct poikilocytosis; there were also distinct degenerated changes within the nuclei of the polymorphonuclear cells. At 5 o'clock in the afternoon her temperature was 103.5° F., and pulse 160, the latter being weak and compressible. The bowels had moved twice, the ejections consisting of thin, brownish liquid, and there was ileocecal gurgling. The Widal-Johnson test was negative. She had vomited three times, and her general appearance was bad.

On February 11th her temperature was 101° F. and pulse 120, very weak but regular. The heart-sounds were normal. The spleen was distinctly palpable. There were no bowel movements during the night and she appeared better. The urine was dark and smoky, the specific gravity being 1025. There was a strongly acid reaction. The urine contained one-half of one per cent. of albumin; the chlorids were normal, but there was an increase in the phosphates. The Ehrlich diazo-reaction was marked, the foam being distinctly red. Centrifugalized sediment showed an increased number of blood-cells, granular and epithelial casts, and very peculiar bacilli about as long as a colon bacillus, but thicker and non-motile. The blood-count showed the red cells to be 3,300,000 and the white cells 13,000 per cubic millimeter, the increase being both in regard to the small mononuclear and the polymorphonuclear variety of leucocytes. There was a marked poikilocytosis, the red cells being deformed and with distinct polychromatophilic changes. The appearance of the white cell was very peculiar and the polymorphonuclear cells appeared distorted in shape. The cell-wall was broken in places and the protoplasm was apparently filled with granules which seemed to be exuding from the broken cell-wall. The nuclei were fragmented, taking the stain badly, and in close proximity to the cells were clusters of fine granular bodies which were very indistinct. Within the red cells were bodies not having the appearance of nucleated cells or of the plasmodium malariæ. Several cover-glass preparations were then stained after the method of Romonoviski.[1] This brought out these bodies more distinctly, and also revealed groups of bacilli similar in appearance to those found in the urine. The bodies were about one-quarter the size of a red blood-cell, and were stained a deep blue and were round in shape. The staining qualities differed from the hematozoon of malaria from the fact that each body was deeply and regularly stained, and also from the fact that they were outside the red cells in exactly the same regular form, being found in groups of from two to three in the immediate proximity of a polymorphonuclear leucocyte. These bodies were similar, I should judge, to those described by Dr. Deney[2] in the case of a woman who had suffered from obscure gastric symptoms and in whom a few days before her death, hemorrhagic spots appeared on the mucous membrane of her fauces, vagina, and on the skin. A careful examination of several fresh specimens of blood failed to reveal the plasmodium malariæ or the motile granules described by Müller. The blood was carefully examined for blood plaques, with negative results, none being found during the entire course of her illness. During the afternoon of that day the patient had a very slight chill. I again removed the tampon but the profuse hemorrhage demanded immediate plugging of both nostrils.

On February 12th her temperature was 105.5° F. and pulse 120, weak and compressible. The bowels had moved once during the night, the ejection being thin, watery, and offensive. Nausea and vomiting had ceased. Through the night there was considerable hemorrhage, the blood oozing from the mucous membrane of the gums and posterior nares, and also from the nose, the plugs not entirely controlling the hemorrhage. I again removed the tampons from the nostrils and the hemorrhage was very profuse. I repacked both nostrils with absorbent cotton saturated with a solution of acito-tartrate of aluminium. This controlled the nasal hemorrhage but a slight oozing of blood continued from the mucous membrane of the gums. Menstruation had ceased and the urine remained the same except that it contained more blood. For the purpose of isolating the bacilli several large test-tubes were carefully sterilized. A catheter was then employed under strict aseptic precautions and about fifty cubic centimeters of urine were thus obtained. The urine was very clear in color, decidedly acid in reaction, and contained one-half of one per cent. of albumin; the specific gravity was 1028. It was then centrifugalized in sterile tubes, the sediment revealing hyalin and granular casts, also an immense number of red blood-cells, and the peculiar bacillus above mentioned. Immediately after obtaining the urine I inoculated a tube of nutrient gelatin, one of agar-agar, one of potato, and also one of bouillon, all of which were transferred to an incubator, except the gelatin which was transferred to a Petri dish and allowed to develop at room temperature. At the time I also thoroughly sterilized the flexor-bend of the elbow, using the most rigid aseptic precautions, and drew from a distended vein about two cubic centimeters of blood with which I inoculated a second series of the above-mentioned tubes. The blood-count was as follows: Red cells, 3,200,000 per cubic millimeter; white cells, 14,000 per cubic millimeter; hemoglobin, 35 per cent. The morphological appearances were unchanged. After my experience in piercing the lobe of the ear to obtain blood for examination I employed the finger-tip which gave me no trouble. During the day blood continued to ooze from the mucous membrane of the gums and from the cavity from which a bicuspid tooth had been removed.

On February 13th her temperature was 101.5° F., and pulse 120. She had a slight chill at 7.30 in the morning. The bleeding had continued all night from the mucous membrane of the gums, the roof of the mouth,

[1] A saturated solution of methylen-blue and a one-per-cent. solution of aqueous eosin.

[2] *Indiana Medical Gazette.*

and posterior nares. The blood-count per cubic millimeter was 3,100,000 red cells; 12,500 white cells; hemoglobin, thirty per cent.

After remaining in the incubator twenty-four hours the bouillon remained clear, but a cover-glass preparation revealed the same bacilli, and a hanging drop proved them to be non-motile. Upon the agar-agar there was a thin layer with smooth edges. There was nothing upon the potato or gelatin. The bacilli stained readily with Loeffler's methylen-blue and carbo-fuchsin, but were very poorly stained by Gram's method. The bacilli appeared in pairs, and were non-motile. At the end of forty-eight hours a thin hyalin growth appeared upon the gelatin, and a thin strip upon the potato. The results were exactly the same from the tubes inoculated with both blood and urine. I injected 1 cubic centimeter into the abdominal tissue of a rabbit. At the end of twenty-four hours the animal appeared sick and would not eat, and at the end of seventy-eight hours it died. An autopsy revealed hemorrhagic extravasation in the subcutaneous tissue, also in the peritoneum and pleura, and extravasation was also found in the ear muscles. The blood showed no tendency to coagulate, and cultures from the spleen, blood, and liver revealed the same organism. The appearance, behavior, and pathogenic characteristics closely resembled the bacillus of purpura hemorrhagica described by Kolb in 1891.

On February 14th the patient's temperature was 102.5 F., and pulse 140, the latter being very weak and compressible. The heart sounds were clear and distinct, and the spleen was distinctly palpable. The hemorrhage continued from the mouth, and there was considerable oozing from the nose. I repacked the nostrils, which operation greatly fatigued the patient, as the nose was very much inflamed from constant pressure. Upon removing the tampons the hemorrhage was as profuse as ever. The blood-count per cubic millimeter was: Red cells 2,300,000, and white cells 10,300. The poikilocytosis was, perhaps, more marked. There was an occasional nucleated red cell, and the same round, deeply stained bodies as before.

On the following day, the 15th, she vomited some blood. The examination of the blood showed the red cells to be 2,100,000 per cubic millimeter; white cells, 14,000 per cubic millimeter; hemoglobin, thirty per cent. The diazo reaction was still marked, as it had been each day from its first appearance. For the first time purpuric spots made their appearance on the legs and back. The patient was very weak and in a semicomatose condition. The left side of the nose and left eyelid were badly swollen and very painful. The bowels had not moved during two days, and she had a chill at 12.30 o'clock. On February 16th her temperature was 99.5° F., and pulse 130 and much stronger. The heart sounds were distinct, and the purpuric spots were increasing. The left eyelid and side of the nose were badly swollen and discolored. I repacked the nostrils, profuse hemorrhage following the removal of the tampons. On the 17th her temperature had risen to 102.2° F., and the pulse was 140, very weak but regular. The patient was able to retain beef-juice, milk, and small doses of brandy. The nose was still badly swollen and ecchymosed. The urine did not contain albumin, but still contained granular and hyalin casts. The blood-count was: Red cells, 2,300,000 per cubic millimeter; white cells, 12,200 per cubic millimeter; hemoglobin, thirty-five per cent. The poikilocytosis was still marked. The nucleated red cells were not present, but the small, round bodies were still observed, and also the same degenerated condition of the leucocytes.

On February 18th her temperature was 101° F., and pulse 120, and stronger. There was less hemorrhage from the mouth and nose, but the removal of the tampons resulted as before. There was a disagreeable odor from the nose, notwithstanding the fact that strict antiseptic precautions were observed. The swelling of the eyelids and side of the nose was increasing. A free incision disclosed the presence of thin, ichorous pus and necrosis of the nasal bones and of the nasal process of the superior maxillary bones. The necrosed portions of bone were removed, and the wound packed with iodoform gauze. The blood-count per cubic millimeter was: Red cells, 2,400,000; white cells, 12,000; hemoglobin, thirty-seven per cent.

On the following day her temperature fell to 99.5° F., her pulse being 140, and very weak. The spleen was still distinctly palpable. The urine was of a clear straw-color, and did not contain albumin; the specific gravity was 1020. The diazo reaction was absent for the first time. Indican was also absent, this having been present part of the time during her illness, but not as a constant constituent. The blood-count revealed red cells, 2,100,000 per cubic millimeter; white cells, 14,000 per cubic millimeter; hemoglobin, thirty-two per cent. There was still present a marked poikilocytosis, the cells varying both in size and shape. The peculiar round bodies were still seen, but were not so numerous; the small mononuclear leucocytes greatly predominated over the polymorphonuclear variety. The character of the latter was very different, they being much smaller in size, with cell-wall and nuclei of normal appearance. I removed the tampons from the nose again, with less resultant hemorrhage, and examination revealed necrosis of the lower turbinate body of the left side, which was readily detached and removed. Both nostrils were irrigated with a 1 to 2000 bichlorid-of-mercury solution, and the tampons replaced.

On February 20th her temperature was 102.6° F. Purpuric spots appeared upon the chest, abdomen, and leg, and also behind one ear. I removed the tampons for the first time without hemorrhage. The wound on the side of the nose was doing nicely. The blood-count was: Red cells, 1,000,000 per cubic millimeter, and white cells, 13,000 per cubic millimeter. An examination of stained specimens showed profound anemia. There were several nucleated red cells, and the Maragliano reaction was marked. There were also many of the small, round bodies before mentioned. The appearance of the leucocytes was fairly normal. The urine was normal, there being neither albumin nor casts present, and the diazo reaction was absent.

On the 21st her temperature had risen to 104° F., and the pulse to 150. The heart sounds were weak but distinct. The skin was bathed in cold perspiration, and the general appearance was very bad. The urine contained a slight trace of albumin, and the bacilli, which had been absent for several days, again manifested themselves. Indican was also present, and the diazo reaction was again marked. The blood count was as follows: Red cells, 2,000,000 per cubic millimeter; white cells, 12,500 per cubic miilimeter; hemoglobin, thirty per cent. The condition of the blood remained about the same, except that the bacilli had again made their appearance, being grouped together in pairs. At 12.30 o'clock she had a slight chill. On February 22d her temperature was reduced to 99.5° F., and pulse was 140. She had rested fairly well through the night, and her general appearance was better. The swelling of the side of the nose and of the eyelid had disappeared, and there was no more hemorrhage from the nose. The urine was again normal, containing neither bacilli, casts, nor albumin. The diazo reaction and indican were still absent. The following was the blood-count per cubic millimeter: Red cells, 3,800,000; white cells, 13,500.

From that time on the condition of the patient very gradually improved. The blood-count revealed an increase in number of red cells from day to day, and the character and appearance of the cells changed for the better. The leucocytosis diminished also, the small mononuclears greatly predominating. The purpuric spots gradually disappeared, and on the 26th of March I saw her for the last time, she being at that time convalescent. She is now a well and healthy girl.

The treatment in this case consisted of the administration of strychnin sulphate, which I used as soon as asthenia became manifest. I began with $\frac{1}{60}$ of a grain, and increased to $\frac{1}{30}$ of a grain, every three hours. For the hemorrhagic condition I employed aromatic sulphuric acid, 10 minims every three hours, and ergotin, ¼ of a grain every three hours. For the impoverished blood state I used arsenic in the form of Fowler's solution, 2 minims every three hours, and after the degenerated condition of leucocytes became so marked I prescribed nuclein (Auld's), one tablet every two hours. This, with small doses of brandy at times, as indications for its use arose, comprised the treatment throughout the case. I will here mention that after prescribing nuclein for thirty-six hours I detected a difference in the appearance of the polymorphonuclear cells. They increased in number, were of smaller size, and the degenerated condition, which had before been present, gradually disappeared. Still, it is difficult to assure one's self that this result was brought about by the nuclein, and I mention it only for the reason that the drug was prescribed, and the change became manifest after its exhibition.

MEDICAL PROGRESS.

Cerebrasthenia.—Hirschkron (*Wien. Med. Blat.*, March 2, 1899) describes a special form of neurasthenia which he calls cerebrasthenia. It develops gradually with irritation and exhaustion of the nervous system which at first disappears after rest and sleep but later becomes permanent. There is at first a condition of psychic weariness. If there is a hereditary taint, or the circumstances are unfavorable, the need for sleep increases and the depression is greater until every mental act becomes an effort and the patient is in no condition to make a decision of any sort. Nevertheless the memory is unclouded, the judgment is unimpaired. By making an effort the patient can rouse himself for a time. Since the cause of the trouble lies in overwork of the brain the condition is usually found in brain-workers who overestimate invariably their power of endurance.

The treatment must be principally one of toning up the general nervous system. The patient should above all things avoid all irritating conditions, such as anger, cares, excessive work, disturbed sleep, excitement, excesses, and alcohol. Treatment is naturally best carried on away from home, in a health-resort, preferably in high mountains. Hydrotherapy, electricity, and among drugs, the syrup of hypophosphites are mentioned by the writer with approval. To secure sleep the bromids are first to be tried and if they fail the stronger hypnotics, such as sulfonal or trianol. To secure sleep for such a patient is of prime importance.

An Interesting Bit of Nose Surgery.—Abbot-Anderson (*Lancet*, March 11, 1899) was called upon to treat the nose of a cook who had cut off its tip while sharpening a knife. The patient appeared at his office without the fragment, and a boy was sent to the kitchen to look for it. His search was successful and the piece, which was a thin strip an inch long and half an inch broad at its lower end, was thoroughly washed in warm boric-acid solution and stitched in place with fine black-silk sutures. It had been severed for about thirty-five minutes. For four hours the nose was kept covered with compresses wrung out of hot boric-acid solution and was then protected from temperature changes by a thick dressing. The wound healed by first intention and the part was kept warm for some days afterward.

THERAPEUTIC NOTES.

Iodothyrin in Thyroid Chlorosis.—Jeulain in a monograph upon thyroid chlorosis, quotes the investigations of Hayem to prove that the thyroid gland is abnormal in most chlorotic persons. The affection is usually one of hypertrophy. He endorses this view not only because the symptoms of many chlorotic patients resemble those of exophthalmic goiter, but also because these patients were much benefited by the administration of thyroid extracts. His conclusions are these:

1. Among the chloroses due to auto-intoxication, is one which clinic and therapeutic observation explains as a thyroid auto-intoxication.

2. Clinically it is characterized by the usual symptoms of chlorosis, to which are added edema similar to that of myxedema, hypertrophy of the thyroid gland, and the signs of a commencing exophthalmic goiter.

3. Therapeutically this chlorosis disappears under treatment by iodothyrin.

The iodothyrin was administered in tablets of 4 grains.

each, of which from three to five were taken per day, the amount being gradually increased for a considerable period, and then decreased.

Treatment of Crural Ulcers.—FREUDENTHAL (*Monats. für prak. Dermat.*, February 1, 1899) after a long series of experiments with different remedies, comes to the conclusion that in the treatment of ulcer of the leg the particular remedy used is of far less consequence than the frequency with which the dressing is changed. No dressing ought to be left on more than three days, and it is better to change it every day or two. If the ulcer is sloughing or indurated it should be scraped out with a sharp spoon after thorough disinfection, or burned with the actual cautery, or nascent sublimate, obtained by mixing salt and bichlorid of mercury together. The patient should remain in bed for a week or two. After an ulcer has healed it should be watched for a time in order to protect the new tender skin from injury. A two-per-cent. solution of resorcin is valuable. Flannel and rubber bandages and rubber stockings are absolutely to be rejected on account of their irritating and sweating properties. A bandage of tricot woven in a long tube, five inches wide, is the most serviceable. After several weeks, from use and washing, such a bandage loses its elasticity and should be cast aside.

Morphin Combined with Cocain for Local Anesthesia.—CECI (*La Semaine Med.*, February 8, 1899) has used with complete success in more than a thousand operations a combination of morphin and cocain. The morphin is injected some minutes before the cocain so that its general effect may be felt before the injection of the latter. The dose of the morphin for an old person is from ⅓ to ½ of a grain and only one-half as much for a young person. The cocain is dissolved in a three-per-cent. boric-acid solution so that it shall contain one-half per cent. of cocain. Proceeding in this manner it is not necessary to obtain complete insensibility and the amount of cocain required is very slight. Ceci has, therefore, never had a case of intoxication and has not found it necessary to resort to the method of Schleich as his own procedure offers all of the advantages of the Schleich method. He has operated upon 362 hernias by this method, performing the radical cure, and prefers it in most cases to a general anesthetic.

Headache from Nasal Causes.—THOMPSON (*Jour. Amer. Med. Assoc.*, January 14, 1899) calls attention to the frequency with which headache is found to be due to nasal causes. Hypertrophic rhinitis, spurs pressing on the turbinate bones, deflected septum, or new growths, especially fibromata, or ulcers, or polypi, or purulent inflammation of the nasal or adjoining cavities are some of the common causes of nasal headaches. The disease in the nose which causes the headache is usually complicated by catarrh of the nasopharynx, pharyngitis, laryngitis, and bronchitis. The mucopurulent expectoration, cough, and dry throat in the morning are valuable symptoms. If understood they direct the physician's attention to the nose as the site of the primary disease. The coated tongue of obstructive disease in the nose is apt to be misleading. Mistake in diagnosis and mortifying failure in treatment can be avoided by remembering that a coated tongue means mouth-breathing more often than it indicates dyspepsia. The diagnosis of headache from nasal causes will be suggested by the history of catarrhal symptoms and long-continued pain. Direct examination of the nose will show evidence of one of the causal diseases already described. If cocainization of the nasal mucosa gives temporary relief of the headache there is greater probability that the cause is some disease in the nose. Touching the affected area in the nose with a probe often increases the pain if the headache comes from this cause. These tests, though, are not always diagnostic. One must sometimes depend on the results of treatment for a positive diagnosis.

Brewers' Yeast for Boils.—BROCQ (*La Presse Med.*, January 28, 1899) has experimented with an old remedy much used by the people in the North of France and in England, namely, the ingestion of brewers' yeast for the cure of boils. He was able to cure himself of pustules to which he was subject by taking at the beginning of each meal a teaspoonful of the yeast in a glass of wine and water, or mineral-water. In the summer it is necessary to obtain it fresh every day. In the winter, according to the temperature, it will keep one or two days. If brewers' yeast cannot be obtained bakers' yeast may be taken in its place, but it is not so well borne by the stomach and the good results are not so promptly obtained. He tried this remedy upon ten other sufferers, nine of whom received a prompt benefit from it.

Wherein Lies the Success in Treatment of Ulcer of the Leg? FREUDENTHAL (*Monats. f. prakt. Dermat.*, No. 3, 1899) believes in the most exact cleansing of a varicose ulcer as well as the area about it with cotton soaked in formalin solution, or peroxid of hydrogen, etc. If there is a phlegmonous inflammation he applies compresses wet with a solution of acetate of aluminum, 4 per cent. If the ulcer is sluggish it should be curetted or touched with a Paquelin cautery; but as patients usually object to such measures it is necessary to resort to topical applications. As an ulcer in a short time grows used to the particular application which is made upon its surface it is necessary to change frequently, not only the medication employed, but the method of its use, varying from a powder to a compress, or to a salve, or a plaster as the necessity arises. When the epidermis has once grown over the ulcerative area it is necessary to harden it by a resorcin salve (2 to 4 per cent.). A bandage of tricot should extend from the toes to the knee. Elastic stockings, rubber or flannel bandages, all exercise an unfavorable influence upon the skin and should be rejected.

Use of Apomorphin after Antitoxin Injections. — A Polish physician, ARNSTEIN by name, has employed apomorphin when, after injection of antitoxin for laryngeal diphtheria, the swelling and softening of the false membrane cause signs of suffocation. A hypodermic dose of $\frac{1}{12}$ of a grain induces vomiting and clears the larynx.

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TRANSFORMATIVE POWERS OF EPITHELIAL CELLS.

We called attention recently in an editorial on "Epithelial Regeneration, Epithelial Overgrowth, and Cancer" (Medical News, March 25th) to Dr. Leo Loeb's work on this important subject, and to the interest it involved because of the light it might serve to throw upon the etiology of malignant neoplasms. We have since had occasion to comment on Dr. Roswell Park's excellent article (Medical News, April 1st) on the nature of cancer. While there are a great many workers in pathology and pathogeny who have adopted the conclusion that the cause of cancer is a parasite there are many good authorities who think that the cause of neoplasms in general will yet be found to be bound up with the essential vitality of certain cellular elements awakened into unusual activity by persistent or unaccustomed irritation.

Our special correspondent in this week's account of "Medical Matters in Chicago" gives an abstract of a paper read by Dr. Loeb before the Chicago Academy of Medicine at its last meeting. In the observations we quoted two weeks ago from "Progressive Medicine" Dr. Loeb brought out especially the power which regenerating epithelial cells have of bringing about the absorption of other cellular elements. Even cartilage was observed to disappear before it. The present observations seem to show that epithelial cells may transform themselves into connective-tissue cells. After all, there is in the present state of our knowledge of original germinal conditions no embryologic impossibility involved in this. Dr. Loeb's microscopic specimens seem to have exhibited various stages of this metamorphosis from epithelium into connective tissue.

Of course observations differing, as these do, so radically from views that have been accepted up to the present time require further substantiation. The work has been very carefully done, however, and is not the result of some sudden inspiration or unexpected discovery but is rather the climax of a series of painstaking studies.

How suggestive for pathogeny the new ideas may be is clearly apparent. The abnormal sympathetic growth of connective tissue in the midst of epithelial neoplasms has been one of the special mysteries of this obscure subject. The new light thrown on the essential vitality of epithelial cells is of the greatest interest. We can only hope that Dr. Loeb's plan of cultivating epithelial elements upon some such artificial culture-medium as agar or blood-serum will meet with the success he seems to anticipate. Such serious workers as now have the subject in hand, both in histology as well as in parasitology, cannot fail ere long to solve the mystery of the etiology of that dread disease, cancer.

THE NEW YORK HEALTH DEPARTMENT AND THE SALE OF SERUM.

The bill before the New York Legislature, known as the "Collier Bill," restraining the New York City Board of Health from selling its surplus serum, has been defeated in the Assembly by a decisive vote, and the Board is, therefore, at liberty to dispose of its surplus serum as may seem to it wise. The private, financial, and personal interests involved in securing the passage of this bill have stimulated the expenditure of a great deal of money and produced much acrimonious talk and many unseemly insinuations in regard to personal motives, not only in the discussion before the committee, but also in the lay

and medical press, especially in the *Philadelphia Medical Journal*. In a series of editorial articles beginning in the issue of February 4, 1899, this periodical makes a series of statements which, if even partially true, would require the most serious attention of the physicians and citizens of New York. It is alleged that the mortality from diphtheria in New York City is double that in any other large city, and that this is due to the poor quality of its antitoxin; that furthermore, the people are taxed for this antitoxin some $80,000, — an amount of money many times that for which the same quantity of antitoxin of good quality could be obtained from private sources. A careful perusal of the articles show that they are founded on such a false interpretation of the official records that the attitude assumed could only emanate from a wilful misunderstanding. This remark applies not only to the number of cases of diphtheria occurring in New York, but also to the alleged great waste of money by the city laboratories.

To those who know the facts it is hardly necessary to allude to the personal attack upon those in charge of the laboratories as being interested financially in the sale of the serum. The motive for this attack upon the New York Board of Health is to be found, undoubtedly, in the effort to aid in the passage of the Collier Bill. The large distribution of a recent issue of the *Philadelphia Medical Journal* throughout New York State, for which it was undoubtedly handsomely paid, may also account for the ardor apparent in these editorials. We publish this week a candid statement over the signatures of Drs. Biggs and Park, which, while properly ignoring the insinuations as to personal financial interests, which are unworthy of the source from which they emanated, answers, to the satisfaction of any unprejudiced mind, the charges that have been made.

The question of selling the surplus serum, so far as legal enactment is concerned, seems to be settled for the present. The Board did wisely, considering the charges that were preferred, to exonerate itself by carrying on the contest to a successful issue. The throwing of mud will now probably cease. The economic question, however, of a subsidized institution entering into competition with private enterprise, still remains. Except under extraordinary circumstances it is pretty well agreed that this is wrong. The extraordinary circumstances which have justified this procedure on the part of the Board of Health up to this time no longer obtain, and we suggest the propriety of the Board of Health now accepting this economic principle, and by official action discontinuing the sale of all serum.

The great work that has been done by the Board of Health in helping to establish diphtheria antitoxin as a specific in diphtheria, its influence as an educational center for the dissemination of knowledge upon the subject, and its advanced work in bringing antitoxic serum to a high grade of perfection, is recognized by the community, and there need be no apprehension lest New York City should fail to supply whatever financial support may be necessary to maintain and continue the work. Let both the rich and the poor of New York be supplied with antitoxin free of charge, if class legislation to the contrary be unconstitutional, but let the Health Board clear its skirts of any charges detrimental to the interests of private enterprise.

THE NEWER(?) PATHOLOGY AND TREATMENT OF LOCOMOTOR ATAXIA.

It is difficult to comprehend the motives that prompt some writers on medical matters to the publication of their views, especially when their remarks teach no lesson and convey no moral. Of course it is impossible for every writer, who essays to illumine or to be illumined by writing on a subject, to say something new, or even to say it in a new way, but this does not license him to present it in a light which he must know, provided he possesses the faculty of comprehension, is not founded in fact. In a not remote number of a sincerely esteemed and high-class medical journal there is an article, entitled "The Newer Pathology of Locomotor Ataxia, and Its Bearing upon Treatment," which would lead us to expect, in the first place, that there is a new pathology of tabes, and in the second place that it has some bearing upon treatment.

It is the consensus of opinion of neurologists whose opinions are worth having that the conception of an anatomical unit of the nervous system, the neuron, has aided very little in pathology and absolutely none in therapeutics. Yet in the article referred to above we are told that "It has wrought a

revolution in the management of diseases of the nervous system," a statement that is absolutely and unqualifiedly without any foundation in fact. Furthermore, the writer would have us believe that "an early diagnosis and a lively appreciation of the nutritional character of the primary degeneration enable us now to hold out a much more hopeful prognosis than was possible with the older conceptions of tabes," a statement which we contend is subversive of the truth. An early diagnosis, even though it be accompanied by the most vivacious appreciation of the "nutritonal" character of the disease, does not warrant a prognosis fraught with one more atom of hope than did such a diagnosis a decade ago before the neuron was heard of. To support us in this opinion, we have the written testimony of the leading neurological authorities of the world, of Erb, of Ferrier, of Raymond, of Dana, and others to the end of the list, who have delivered themselves upon this matter in recent times.

"All measures which conduce to a restoration of the normal metabolic function of the nerve-cells are to be instituted." Was it ever otherwise, we would ask? Did not Duchenne, Meyer, Wunderlich, Remak, Charcot, Ross, Seguin, and Hammond maintain the same necessity, though with less pretension? If we recall the fact that Erb contends that more than ninety per cent. of these cases are syphilitic, that Fournier teaches that ninety-five per cent. have a syphilitic history, and that Mobius and Marie aver that all cases of tabes are syphilitic, how, we ask, can any man have the effrontery to speak of the marvelous treatment and improvement of locomotor-ataxia subjects under antisyphilitic medication? If there is one question that more than another is considered debatable among neurologists to-day, it is: Should antisyphilitic treatment ever be instituted in tabic patients who have no manifestations of syphilis other than tabes? It is not improbable that if this question were put to vote a negative reply would be obtained.

ADVANCES IN INORGANIC CHEMISTRY.

The past few years have seen most remarkable advances in inorganic chemistry. Previous to this scientists generally had about adopted the notion that until newer methods of investigation should be invented, discoveries in inorganic chemistry would be limited to the description of new and unusual combinations of elements.

Some three years ago the scientific world was startled from its lethargy in this respect by the announcement that Lord Rayleigh and Professor Ramsay had discovered a new element in the air. Ramsay, the codiscoverer of argon, has described during the past year three other hitherto undescribed elements that exist in the atmosphere. These he has called krypton, the hidden, because so long concealed; neon, the new, and metargon, an element having certain analogies to argon. To these new atmospheric elements an American, Mr. Charles Brush, has added a fifth, etherion, so-called because of certain points of resemblance to the ether that pervades all space. This substance has not yet substantiated its right to a place in the list of elements, for while certain very interesting evidence of its existence is at hand, as yet it has been impossible to obtain its spectrum.

Two other elements, it is claimed, have been discovered during the past year. One of them, polonium, has been studied in its sulphate, which occurs in pitchblende, a substance found in Poland, hence its name. It resembles uranium in its chemical properties and its compounds have been observed to emit like those of uranium an invisible radiation analogous to the Röntgen-rays. The other new element, coronium, was observed in the sun's atmosphere, and it is believed to be very much lighter than hydrogen.

We welcome sincerely this reawakening of the ardor of discovery in inorganic chemistry at the end of the century whose beginning saw such rapid strides in the just awakening science. The discoveries, and especially the newer methods brought into play, are of special interest to medical men because they open up a prospect of new applications of inorganic substances in therapy, and a better understanding of the therapeutic effects of old ones. The new discoveries in the air are particularly interesting because it had been thought that the ultimate elements of this substance at least were long known. They throw an interesting light on certain therapeutic opinions. There are those, and men of prominence, too, who have insisted that the ultimate constituents of such natural medicinal agents as the extracts of plants or

of the mineral waters were not known. What were known, they said, were merely the gross constituents; some of the finer components were missed entirely, and the method of their combination was a complete mystery. Hence the better results to be obtained very often from the crude drug, or its extract than from any of the chemical substances obtained from it. Hence, too, the better effect of the natural mineral water than of any artificial imitation of it. Whether the new era of discovery that seems to be opening up in inorganic chemistry will bring any nearer a definite solution of these important questions is for the future to decide, but any advance along the line toward the ultimate solution of them is encouraging and gives promise of great things for the new century.

ECHOES AND NEWS.

Tubercle Bacilli in Butter. — Dr. Petri of the Imperial Health Office in Berlin has found tubercle bacilli in 32.2 per cent. of 102 samples of butter examined.

Combined Business and Pleasure.—The patient may now take his cod-liver oil in the form of *pate de foie de morue*, which, according to a French paper, is both effective and agreeable.

Antitoxin Bill Defeated.—The "Collier" bill to prevent the sale of antitoxin and other serums by the New York City Board of Health was defeated in the Assembly at Albany on March 30th.

For the Care of Sick Soldiers.—The Jersey City Hospital has received from the United States Government $891 for the board and care of soldiers who were taken sick while passing through Jersey City.

Helmholtz's Brain.—Professor Hansemann of Vienna has examined the brain of the late Professor Helmholtz. Its weight was 1440 grams (about 45 oz.), and the convolutions were extraordinarily complex.

Rates for the Columbus Meeting.—It is announced that the Central Passenger Association has made a rate of one fare for the round trip for the Columbus Meeting of the American Medical Association in June.

Cerebrospinal Meningitis in Washington and St. Louis.—During the three weeks ending with March 27th there have been thirty deaths from this disease in Washington. A number of deaths due to the same cause are reported from St. Louis.

A Hospital Automobile.—An automobile ambulance has been presented to a Chicago Hospital. The vehicle weighs 1600 pounds, and is capable of a speed of sixteen miles per hour. This is probably the first electric ambulance ever constructed.

The German Red-Cross Medal.—This decoration has been created by the German Emperor at the suggestion of the Empress. The medal will be given to men and women belonging to the Red-Cross Association who distinguish themselves by their zeal.

Pensioner Regrets His Cure.—A Minnesota veteran, having given a public testimonial to a patent-medicine firm that its medicine has restored him to perfect health, is now trying to set himself right with the Pension Office, which proposes to take him at his word and cut him off the pension rolls.

A Summer Course in Medicine. — Cornell University Medical College announces that it will conduct a summer course for students of all grades during the summer of 1899. The course will cover the period from May 15th to August 1st, and the instruction will be chiefly clinical, with laboratory work and quizzes.

Typhoid Fever in Newark.—From March 1st to March 24th there were 260 typhoid cases in Newark, N. J. During the whole of the year 1898 there were but 179 cases. The source of infection for the present epidemic is the use of the water of the Passaic River during the water-famine resulting from the blizzard.

Tuberculosis in Tenement-houses. — On March 21st President Murphy of the New York City Board of Health ordered an inspection of tenement-houses with a view to ascertaining the number of cases of consumption among the inmates. The inspectors will distribute slips to the tenants, on which are printed directions as to prophylaxis, etc.

An Accidental Improvement —The table of contents in a recent number of a well-known and much-liked contemporary begins as follows: Original Communications: Fractures Improving the Elbow-Joint. By turning to the page indicated, it appears that the "improvement" was "original" with the printer, and did not "involve" the writer of the article.

German Soldiers Gain in Weight.—Mueller of Berlin is authority for the statement that the German soldier gains on the average nine pounds' weight during the first three months of his service. A portion of this is lost during the summer maneuvers, but at the close of the twelve months he weighs on the average 4.5 pounds more than upon his entrance into the service.

Chicago Dental Charity.—The Chicago Bureau of Associated Charities has arranged to open a dental dispensary in each of its ten districts, the object being to furnish dental service to the poor at the smallest possible cost. Teeth will be extracted for ten cents. Filling will cost from fifteen to twenty-five cents. The dentists volunteer their services and the material used is furnished at cost.

Photographing the Stomach. — Drs. Lang and Meltzing of Berlin have presented an apparatus which they have invented for photographing the interior of the stomach. The tube, the end of which contains a microscopic camera

and an electric light, is inserted into the stomach. The negative is about the size of a cherrystone, but it can be enlarged. When the stomach is emptied and filled with air the photograph is made.

A Bipartisan Charities Board.—On March 30th a bill was introduced in the Assembly at Albany which practically makes the Charities Department of New York City bipartisan. The number of charities commissioners is increased to six, of whom two shall be from Manhattan and the Bronx, two from Brooklyn and Queens, and two from Richmond. In none of these instances shall more than one of the commissioners be of one political party.

Contagious Diseases on Trains.—The Jersey City Board of Health has appointed a committee to confer with the officers of all the railroads centering in Jersey City to the end that some means may be devised by which the Board of Health can be notified at once of the arrival of any person who is suffering from an infectious disease. Cars which may have come from places where infectious diseases are prevalent will be fumigated on their arrival at Jersey City.

Professional Secrecy in English Law. — A memorandum of the law of England relating to the obligation of medical practitioners with regard to professional secrecy has been prepared by Mr. Muir Mackenzie, at the request of the General Medical Council. It is declared that "a medical man not only may, but must, if necessary, violate professional confidences when answering questions material to an issue in a court of law." The law of New York is directly contrary to the English law in this respect.

Information as to Dr. Hjalmar Stromberg Wanted. — A letter has reached us asking for information as to the present whereabouts of Dr. Hjalmar Stromberg formerly of Ystad, Sweden. He came to this country, as we gather from a letter to us from his mother, in July, 1891, and was in a hospital in Memphis, Tennessee, during August and September of that year. Afterward he studied medicine for three years and graduated as a physician. Since 1895 nothing has been heard from him and relatives in Sweden are anxious for information.

Increased Pay for Army Nurses. — All contracts made with the nurses in the employ of the United States Government which were renewed on April 1st are at a salary of $40 per month instead of $30 for the nurses serving in the United States, and $50 per month for those serving abroad. No one under twenty-five years of age will be received. All nurses, except those who are to nurse yellow-fever patients, must be graduates of a training-school, and must furnish a physician's certificate as to physical ability to undertake the work. Dr. Anita Newcomb McGee, Acting-Assistant Surgeon, has charge of the trained nurse department of the Surgeon-General's Office at Washington, D. C.

Aguinaldo as a Medical Student.—Our London contemporary, the *British Medical Journal*, is authority for the statement that for a time at least, Aguinaldo, the leader of the Filipino rebels (or patriots?) was a medical student. His European cast of features has given rise to the story that he is a half-breed, though it is not known who his parents were. The honor of his paternity is attributed to a Spanish general. At fifteen years of age he entered the Pontifical University of Manila, where he worked under Professors Naldo and Buitrago. He afterward studied at the Victoria College (British) at Hong Kong. He was remarkable for his ability as a student but further than this nothing seems definitely known of his college career. It is not known for instance whether he pursued his medical studies up to graduation or not, so that we cannot say that he is more than a professional half-brother at most.

Another Strike among the Italian Medical Students —The year has not been allowed to pass without the usual row between the students and faculty of at least one of the Italian Universities. There has been for a number of years a strained feeling between faculties and students over the question of an Easter examination. This has always kept things in a state of tension that made lapses into insubordination easy whenever anything occurred to set up a little vibration in the mutual relations of students and professors. This year it is at the University of Turin, and the cause is a revolt against Professor Fusari, the teacher of anatomy. Every effort has been made without success to induce the students to give up their opposition. It has been pointed out that Professor Fusari owes his place to a successful competitive examination, and that his work eminently fits him for the place, but to no purpose. Professor Bacelli, the Minister of Public Instruction, endeavored to call them to their senses in the matter by an admonitory *avviso* in his public capacity. This was no more successful in bringing about better feelings than previous efforts at reconciliation so the Government has decided to close the medical school for the rest of the session. This will cause the loss of a year to all the students in the medical department, and not alone to those in the school of anatomy who seem to be the real offenders.

CORRESPONDENCE.

THE NEW YORK BOARD OF HEALTH AND DIPHTHERIA ANTITOXIN—AN OFFICIAL STATEMENT.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—Replying to your inquiries regarding certain statements which have been made in the *Philadelphia Medical Journal* and in the lay press as to the work of the New York City Health Department we gladly submit the information that you desire.

1. All of the experimental work upon diphtheria antitoxin as well as the work connected with its routine production for curative purposes has been entirely done by the bacteriologists of the Department of Health and has always been directly under our own personal supervision. The city authorities declined to make the appropriation necessary to provide special stables for the Department of Health for this purpose, and, therefore, the horses have

always been kept at the stables of the New York College of Veterinary Surgeons. They are, however, and have always been wholly under the supervision of the officials of the Department of Health.

2. The Department of Health in order to carry on its work has been compelled to produce its own vaccine virus and diphtheria antitoxin, for only in this way can it be always certain to have at command a sufficient quantity of active vaccine virus and high-grade diphtheria antitoxin. On several occasions the Department of Health has supplied large quantities of diphtheria antitoxin to private producers who have not had sufficient to supply a sudden large and urgent demand. The Department of Health can also produce diphtheria antitoxin much cheaper than it could buy this agent because of the large and constant demands upon it for use among the poor in Greater New York.

3. The Department administers antitoxin without charge in any case of diphtheria among the poor upon the request of the attending physician. It also gives diphtheria antitoxin free to any physician who states that it is to be used in the case of a patient to whom payment for it would be a hardship, and it further not only supplies its own hospitals but furnishes diphtheria antitoxin and all its other laboratory products free to all public institutions in Greater New York. The amount of antitoxin administered by its own inspectors constitutes a very small portion of that given free. In 1898 more than $40,000 worth of diphtheria antitoxin and other antitoxins was given free while the sales for the year amounted to only $13.963. No attempts have ever been made to increase the sales by advertisement or in any other way.

4. The reports from the Division of Bacteriology as to the number of cultures examined are entirely distinct from those made from the Division of Contagious Diseases as to the number of cases of diphtheria reported as occurring in the city. In the period alluded to in an editorial in the *Philadelphia Medical Journal* (*i.e*, the first half of 1898) there were 7051 cases of diphtheria and croup reported to the Division of Contagious Diseases. All of these cases were regarded by the attending physicians as diphtheria, a portion only were examined bacteriologically (no regulation of the Health Board requires bacteriological examination) and many of these were only reported as diphtheria after the examination by culture. Many cases, however, were so clearly diphtheria from a clinical standpoint that no cultures were made (for example, only very rarely are the fatal cases of croup examined bacteriologically). Others were doubtful from a clinical standpoint and were only considered by the physician to be diphtheria after the results of bacteriological examination were known. Many other doubtful cases occurred, but as the cultures showed no diphtheria bacilli they were not regarded by the attending physicians as diphtheria and were, therefore, never reported as such to the Division of Contagious Diseases and do not appear among the 7051 cases reported for the half year. Therefore, only a portion of the cases examined bacteriologically appear in the 7051 cases of diphtheria reported to the Division of Contagious Diseases.

5. As to the advisability of the Department of Health being allowed to sell its surplus product of vaccine virus, diphtheria antitoxin, and other antitoxins it should be kept in mind that these substances are solely employed for the preservation of life and the prevention of disease. They are so necessary for the public health and so difficult of preparation and preservation that they are almost universally considered to be in a different category from ordinary drugs and in Europe are largely made either under the direct supervision of the health authorities or in some semi-official scientific laboratories, such as the Pasteur Institute in Paris and the British Institute of Preventive Medicine in London. So far as this city is concerned, where most of the sales of department antitoxin are made, it may be said that it would be necessary to give antitoxin free to all persons desiring to use it, both rich and poor, if the Department did not have the right of sale. To give it free would merely cut off a revenue amounting to some thousands of dollars which is now used for purely experimental work in the laboratories and which, up to the present time at least, the city authorities have declined to appropriate for this purpose.

6. Those who are familiar with the work of the laboratory know how small a part of the expense is due to the simple production of diphtheria antitoxin. Even those engaged chiefly in its production give much of their time to the experimental work relating to the separation of the serum and its better chemical understanding. Others are working upon infections due to the streptococcus, pneumococcus, typhoid bacillus, tubercle bacillus, and other pathogenic organisms.

The work of the laboratories has always been open to inspection, and any information as to its methods has always been, and so long as we are in charge of it, always will be freely and gladly given to any who rightly apply for it.

Very sincerely yours,

HERMANN M. BIGGS,
Director of the Bacteriological Laboratory.
WILLIAM H. PARK,
Asst. Director of the Research Laboratory.

NEW YORK, March 29, 1899.

AUTOPSIES AND THE ANTIVIVISECTIONISTS.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—In your recent editorial headed "Autopsies, the Antivivisectionists, etc.," you say: "One of the serious objections on the score of inhumanity, we suppose, that was urged against the management of the General Hospital at Vienna, by the zealous antivivisectionists at their recent meeting in Philadelphia, was that an autopsy is performed in the case of every patient that dies in the hospital. Like many statements made by the antivivisectionists, this is not entirely true."

I beg to assure you that there is not the slightest foundation for one word of this paragraph nor of another soon after, which is as follows: "The truly senseless phase of this discussion, so conspicuous at the recent

Philadelphia meeting, reveals the true inwardness of the antivivisectionist movement and its fanatical opposition, for certain merely sentimental reasons, to scientific advance."

At that meeting not only was there not a single word, that I can remember, spoken upon the subject of autopsies, but never in the whole history of the antivivisection movement, has there been the slightest objection made to them or to anything else which came strictly within the province of the medical profession and had no connection with our work. The only thing to which we do object, is the torture of helpless, unoffending animals, the infliction of which we consider is a grievous sin in the sight of a merciful God. Yours truly

Caroline Earle White,
Cor. Secretary of Amer. Antivivisection Soc.
2024 Chestnut Street, Philadelphia.

[We are sorry that the newspaper accounts of the meeting of the antivivisectionists should have led us into the error that Mrs. White points out and we are glad to be assured that the antivivisection movement does not oppose autopsies.

We have to apologize for a misstatement of what Mrs. White said at the same meeting of the Antivivisectionists with regard to experiments upon patients at the Vienna General Hospital. In this, too, the daily papers exaggerated what was said at the meeting, and quite changed its purport. That and the interviews on the subject at the time led us to suppose that bitter criticism had been indulged in at that meeting, while we learn that only certain extracts from foreign journals were read.

We cannot refrain from pointing out the mischief that is done by repeating unauthoritive newspaper stories containing the most vague and general accusations against the great hospital that has done so much for modern medicine. They can only arouse bitter feelings, and can never lead to reforms, supposing there should be need of them. Many a physician interested in the prevention of cruelty to animals is deterred from expressing his feelings in the matter because it would seem to associate him publicly with those who are too ready to give credence and publicity to unsubstantiated statements about the medical profession and its relations to animals and patients.—Ed.]

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

ANNUAL MEETING OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA—FORTY-THIRD ANNUAL COMMENCEMENT OF THE PENNSYLVANIA COLLEGE OF DENTAL SURGERY—ELECTION OF THE PHILADELPHIA COLLEGE OF PHARMACY—THE WATER QUESTION AGAIN—HOSPITAL BEQUESTS—CHARITY-BALL PROCEEDS—STATE MEDICAL LAWS UPHELD—PERSONAL NOTES—HEALTH STATISTICS.

Philadelphia, April 4, 1899.

Johnstown is to be the meeting-place of the forty-ninth annual meeting of the State Medical Society which will be held on Tuesday, Wednesday, and Thursday, May 16th, 17th, and 18th. The following addresses will be given: President's address, Dr. W. B. Lohman, Johnstown; address in medicine, Dr. J. C. Lange, Pittsburgh; address in surgery, Dr. G. W. Guthrie, Wilkesbarre; address in obstetrics, Dr. F. P. Ball, Lock Haven; address in hygiene, Dr. W. M. L. Coplin, Philadelphia; address in mental diseases, Dr. H. L. Orth, Harrisburg; address in laryngology, Dr. D. Braden Kyle, Philadelphia. Dr. George W. Wagoner, Johnstown, is Chairman of the Committee on Arrangements and Credentials and Dr. S. S. Towler, Marionville, Chairman of the Committee on Scientific Business.

The forty-third annual commencement of the Pennsylvania College of Dental Surgery was held last week, 113 graduates receiving diplomas.

The Philadelphia College of Pharmacy has elected for the ensuing year the following officers: President, Chas. Bullock; secretary, William N. Stern.

Acting Chief of the Bureau of Health Colonel Lewis J. Good believes he has discovered the source of pollution in the Schuylkill river, which is responsible in great part, at least, for the epidemic of typhoid which so far shows no signs of abating. The Manayunk canal from Glen Willow, where it starts, to the Schuylkill, at Manayunk, where it ends, was thoroughly inspected by Colonel Good and Dr. L. C. Wessels, the Bureau's inspector for that district, and it is believed that the trouble arises in this vicinity.

The movement or agitation in favor of pure water continues and well it may, with a total since January 1st of 4855 cases and 493 deaths from typhoid. The Board of Education has taken steps to utilize the $23,000 appropriated by councils for water-filters to be placed in the schools. Dr. Morton and Dr. Williams, members of the Committee on Hygiene. are to make a special report to their fellow board members this week advising that not only should filters be purchased but means for boiling the water should be provided. To add to the general trouble of the pollution of the water it now appears that owing to broken-down and inadequate pumps the city is in danger of a water-famine which may occur at any time. If the facilities for pumping were improved enough water could be held in reserve to allow sedimentation to take place and thus the water would be less impure; with this fact in view it is proposed to patch up the pumps, prevent all waste of water and struggle along in this way until Providence sees fit to bring about the millennium and provide us with councilmen honest enough to give us pure water.

The will of George W. Lukens, which was probated last week, provides nearly $50,000 to the Grand Lodge of Masons to endow a hospital for the Masons of Pennsylvania. The old Lukens homestead in Frankford is left for this purpose and should the Masons refuse the bequest, all is to be turned over to St. Mark's Episcopal Church for the same purpose. S. C. Blake of Santa Barbara, California, who died recently, bequeathed $10,000 to the Orthopedic Hospital of this city. Still another bequest of last week is that of Jane McAnally who died in St. Agnes' Hospital two weeks ago. St. Joseph's Hospital is left $1000, St. Agnes' $1000 and St. Vincent's Home Maternity Hospital $2500.

The Hebrew Charity Ball Association has distributed $16,368.50, the proceeds of the February ball, among the following institutions: Jewish Hospital Association, $5237.92; United Hebrew Charities, $5074.23; the Jewish Foster Home, $4910.55 and the Orphans' Guardians $1145.80.

The Philopatrian Ball was given for the benefit of the Free Hospital for Consumptives but owing to the blizzard the receipts barely met the expenses. For this reason a progressive euchre is to be given for the hospital on Monday evening, when it is hoped a sufficient amount of money will be raised to carry on the work as there is a great need for funds.

Owing to the energetic work of the Erie County Medical Society the Pennsylvania Medical Law has been declared constitutional and too much gratitude cannot be shown the society for its sterling work in pushing this case. Part of an abstract of the opinion given by Judge Walling of Erie, taken from the *Pennsylvania Medical Journal*, follows: "In the case of Commonwealth *vs.* Robert Lee Finn, the Medical Society of Erie County, acting as complainant, the jury found that Mr. Finn was practising medicine without conforming to the law. His attorneys thereupon contended that the law was unconstitutional, in that it did not provide for other schools of medicine than the regular, homeopathic and eclectic. The number of Boards of Medical Examiners which should be provided for, is a question for the legislature, and not for the courts. The act would have been valid had it only provided for one Board of Medical Examiners, and because the legislature had seen fit to broaden the field, and thus render it less difficult for the applicants to comply with its terms, cannot be a valid objection to the act. It is a mistake to assume that the act limits the practice of medicine in Pennsylvania to three schools. True, there are only three Boards of Examiners, but after the applicant has successfully passed one of these boards, there is no limit to the school of medicine in which he can practice."

Dr. Edward Schellinger has been appointed assistant surgeon on the visiting staff of the Cooper Hospital of Camden and Dr. F. Otis Bryant on the medical staff of of the Chester Hospital to succeed Dr. D. W. Jeffries, mayor-elect of Chester.

Dr. D. W. Bland of Pottsville, died suddenly last week of heart disease. He was surgeon of the Ninety-sixth Pennsylvania Infantry during the Civil War and for nearly forty years had practised in Pottsville.

The total number of deaths occurring in Philadelphia for the week ending April 1st, as reported at the Health office was 504 of which number 128 occurred in children under five years of age. The total number of new cases of contagious diseases was 497 reported as follows: diphtheria, 59 cases with 11 deaths; scarlet fever, 33 cases with 3 deaths; typhoid fever, 404 *cases with* 43 *deaths.*

Mortality in New York State —There were 10,763 deaths in New York State during February, 1899. This number exceeds the mortality during February, 1898, by 1500. Grip is considered responsible for the increase.

MEDICAL MATTERS IN CHICAGO.

[From Our Special Correspondent.]

ORIGIN OF CONNECTIVE TISSUE FROM EPITHELIAL CELLS—IMPLANTATION OF URETERS IN RECTUM —DONATION BY MRS. OWSLEY—ANTITOXIN TREATMENT OF DIPHTHERIA IN CHICAGO.

CHICAGO, April 1, 1899.

AT the March meeting of the Chicago Academy of Medicine Dr. Leo Loeb read an interesting paper in which he discussed the possibility of the origin of connective tissue from epithelial cells.

He reported some observations of transitional stages between epithelium and connective tissue. These observations were made in connection with experiments on the transplantation of skin. In one series of experiments the skin was transplanted on superficial wounds; in another it was transplated in the deeper layers of the ear of the guinea-pig. The transplanted skin was examined in many stages of its healing process.

In many places one gets the impression that the nuclei of the deeper epithelial cells were transformed into the nuclei of the connective tissue. The nuclei of the deepest epithelial cells may sometimes have a different morphological character. In such cases the nuclei of the underlying connective tissue have frequently forms corresponding to those of the nuclei of the epithelial cells. Not infrequently the nuclei of the deepest epithelial cells have no longer their usual vesicular structure, but have a structure more like that of the connective tissue, being more or less rod like in character. Secondly, at certain places beneath the epithelium one notices the fading away of the epithelial cells so that only their dim outlines may be visible. The regenerating epithelial cells are often closely connected by protoplasmic bridges with the underlying tissue. Especially in the hair-follicles beneath transplanted tissue there appears a gradual transition of the character of epithelial cells to the character of connective-tissue cells. Under certain conditions the regenerated epithelium presents the appearance of the "upper protoplasmic layer." The latter is characterized by its homogeneous transparent protoplasm and its lack of visible-cell limits. It possesses nuclei which do not have the ordinary vesicular appearance of epithelial nuclei.

Microscopic sections obtained from three experiments were described more in detail. They showed at different places appearances of gradual transition of epithelial cells to connective-tissue cells.

The nearer the cells were to the epithelium the more closely did they have the character of epithelial cells. Farther away they showed the typic character of connective-tissue cells. In a former paper the author had reported an observation of the epithelial tissue breaking through cartilage. Here the epithelial cells take a spindle form, being much drawn out, so that they could be easily taken for connective-tissue cells.

To these cases of transition the epithelial cells and connective-tissue cells have the same direction. It must be stated that at many places there is a sharp line of demarkation between the epithelium and the underlying

tissue, but frequently there is a direct connection no, such line of demarcation being present.

The papillæ in the regenerating or in the transplanted skins do not have the regular form as seen in the normal skin, but have the most irregular and grotesque forms. They may form an overhanging protuberance, the basal portion of which is separated from the epithelium by a straight line. This curious formation can be explained on the supposition that the papillæ are formed by the gradual breaking down of the epithelium.

Along the margin of the papillæ one sometimes observes the dim outlines of the original epithelial cells and nuclei which have the character of connective tissue, yet nuclei resembling the nuclei of the epithelial cells are situated in the direction of the nuclei of the epithelial cells. In a former paper the author had described how in certain cases the epithelium penetrated into the blood, but in such cases no connective tissue could be detected. Further experiments are in progress to study the action of different tissues on substances like agar, and blood-serum, in order to observe the regeneration under these conditions, and if possible to get means to isolate different tissues in this way.

Beneath the regenerating epithelium one very often finds a layer of fibrous tissue so closely attached to it that it appears to have been derived from the epithelium. This layer has the character of a connective-tissue lamella, and branches out beneath into the connective tissue. These are the main facts. The theory that epithelium can change to connective tissue would explain them. The pictures described above are not brought about by the epithelium being dragged into the connective tissue by the microtome knife. These microscopical appearances cannot be explained by the hypothesis that connective tissue changes to epithelium, because epithelium regenerates only in connection with epithelium. They might be partially explained by the supposition that connective tissue from beneath grows upward and forms a connection with the overlying epithelium. But in a number of cases we observe that the cells near the epithelium are much more like epithelial cells than the cells far away. This fact must be explained. And, in addition, the peculiar forms of the papillæ cannot be produced by the destruction of the epithelium through connective-tissue cells. If that were the case we should expect to see much more frequently that cells of one character, namely, connective-tissue cells, penetrate into and mingle with cells of another character, namely, epithelial cells.

Embryological facts do not exclude the possibility of the above-given interpretation. A closer analysis of the term germ layer, as has been given in a paper of Braem, shows us that the term has by no means such a fixed meaning as was formerly thought.

At the meeting of the Chicago Gynecological Society, held March 17th, Dr. Franklin H. Martin exhibited specimens and made a further report of implantation of ureters into the rectum. The new operation has for its object the making of subsequent infection of the ureters and kidneys impossible after double implantation of the ureters into the rectum. The post-mortem findings in experimental operations for uretero-rectal anastomosis where no effort was made to provide for valve formation show unmistakable signs of infection of the kidneys due to ascending infection through the ureters. He has operated upon nine dogs by his new operation, two of which recovered. The paper deals with the report of the first dog in the second series which lived, that is, the one operated upon after the improved method. The dog was operated upon December 22, 1898, and was anesthetized and killed March 11, 1899, having lived nearly three months.

The principles of the operation are: (1) The ureters empty into the bowel in the direction of its long diameter, and from above downward, so that the urine is discharged in the direction taken by the fecal current. (2) The ureters are buried in the walls of the rectum for a distance of an inch or more longitudinally, so that in the act of defecation the fecal mass will squeeze the ureters and close them by its pressure on the mucous membrane. Moreover that pressure is exerted from above downward in the direction of the onward flow of the urine, thereby emptying the ureter by a milking process. (3) The ureters are further protected by the muscular coat of the intestines, this is accomplished by surrounding them in their longitudinal course through the intestine to the extent of two centimeters by the circular coat of the bowel. This muscular coat of the bowel in acting from above downward, milks the urine downward and holds the ureters closed when the rectum is aiding in defecation. When the contraction and closure due to the defecation are over the urine will spurt forth with considerable force acting as its own cleanser. (4) The ureters are implanted in the lower bowel which is normally empty except at defecation.

A preliminary report of bacteriological findings during life and post-mortem in the case of implantation of both ureters into the rectum was given by Dr. F. Robert Zeit.

In the discussion of Dr. Martin's paper, Dr. Reuben Peterson stated that some four of five months ago he had under his care a case of malignant disease of the bladder. Thinking that possibly the extirpation of the bladder would be necessitated he perfected himself in the technic of implantation of the ureters in the rectum. He performed the operation on a dog who promptly died. A second examination of the case convinced him that the disease was too far advanced to warrant total extirpation of the bladder. But his interest was aroused in the subject and he has been experimenting upon ureteral implantation ever since. He is not prepared to report definitely regarding either the technic of his operations or their results. He confesses, however, that he cannot take as favorable a view of it as Dr. Martin does, if by favorable is meant that there is hope that the operation may be applicable to the human subject. From his experience of this operation on the lower animals, he does not feel justified in implanting the ureters into the human rectum. Final judgment should be reserved until an opportunity is had of examining many specimens of the kid-

neys and ureters of dogs who have lived months after the operation; then and only then will surgeons be in a position to decide upon the merits of the operation.

Mrs. Heaton Owsley, representing the heirs of the Carter H. Harrison estate, has presented $8700 to the Mary Thompson Hospital for Women and Children. The money will be held in trust, and the interest applied to the maintenance of a room to be known as the Carter H. Harrison room.

The record of the antitoxin treatment of diphtheria of the Chicago Health Department for the past four months —November and December, 1898, and January and February, 1899—is even better than that heretofore published, showing a reduction of mortality to only 4.78 per cent. in 418 cases. There was no deaths in 129 cases treated with antitoxin in the first or second days of the disease, and there are only three among 114 on the third day, a percentage of 1.23 in a total of 243 cases treated in the first three days from the onset. These records deal exclusively with the gratis treatment of diphtheria among the poor and under the most unfavorable conditions, and do not include the cases removed to hospitals. Thirty-eight or 9 per cent. of the cases required intubation, with 30 recoveries and 8 deaths, a mortality percentage of 21, or less than ⅔ of the average deaths-rate of all cases before the introduction of the antitoxin treatment. The constantly decreasing mortality statistics also indicate that the use of the antitoxin treatment is increasing in private practice, and that Chicago physicians are employing this method more generally and successfully than any similar number of their profession in any part of the world.

OUR LONDON LETTER.

[From Our Special Correspondent.]

AMAZING ADVICE FROM THE LAY PRESS ON INFLUENZA—THE PRESIDENCY OF THE ROYAL COLLEGE OF PHYSICIANS—AGAIN THE NEW "ORDER OF MERCY"—THE CHAIR OF PHYSIOLOGY IN THE UNIVERSITY OF EDINBURGH—EMOLUMENTS OF UNIVERSITY CHAIRS—VARIOUS NEWS ITEMS OF INTEREST.

London, March 24, 1899.

The influenza still subtends a large arc of the public visual angle both lay and professional, although it is fortunately now diminishing both in extent and intensity. An amusing feature has been the oracular advice of the daily press in regard to the prevention and mitigation of the disease. The *Daily Chronicle* one day editorially Solomonizes to the effect that "people do not get serious attacks of influenza who keep their blood well alkalinized with potash" whatever that may mean. Two days later it semi-editorially "hedges" by quoting from "one who speaks with authority" the awful warning that there is danger in the use of potash salts of any kind "as the smallest amount of free potash formed by the interaction of the potash salt with other mineral salts in the blood—is the cause of heart failure!"

This "Daniel come to judgment" must be either a freshman medical student or an amateur dabbler in physiology who has been reading of Claude Bernard's classic experiment of stopping the frog's heart in systole by a potash solution, a result which we need hardly say has never yet been paralleled in the human body even under the most heroic "tertiary" doses of the iodid.

Truly a little knowledge is a dangerous thing. This solemn warning proves, however, to be simply Daniel's introduction to a remedy of his own, repeated doses of a one-per-cent. solution of common salt which he avers to be "the natural and normal remedy for preventing and curing the disorder." It is to be taken in "frequent potations until a reduced watery state of the organism" is attained. A cheerful and convivial remedy but one which is even more dangerous than the potash according to Daniel's own logic, for, have not thousands of deaths in the human family been attributed to breath-failure, due to salt-water in sufficient excess to produce precisely a "a reduced watery state of the organism"?

The annual election of a president for the Royal College of Physicians is at hand and as the present incumbent, Sir Samuel Wilks, has announced that this being his third term he will not allow his name to be again presented as a candidate, the college is looking about for his successor. Some four or five names are mentioned of Fellows whose seniority entitles them to consideration. Sir William Broadbent, Dr. W. H. Dickenson (of albuminuria fame), Dr. W. S. Church, and Dr. S. J. Gee, of whom Sir William Broadbent appears the favorite and most probable candidate. The presidency is the blue ribbon of the medical side of the English profession and it has come to be practically expected that its holder will be knighted at the close of his term, if that honor has not already been conferred upon him.

The *British Medical Journal* has a long editorial comment upon the Prince of Wales' new Order of Mercy which criticises it very much along the same lines as that of our last letter. It regrets both the necessity of such a movement, the manner of practically enforcing small contributions, the "snowball scheme" of charity and the granting of an order for what ought to be the spontaneous kindly impulses of humanity. Still it wishes the plan success as the need it has undertaken to fill is a crying one.

The lists have been formally opened for candidates to the Chair of Physiology in the University of Edinburgh left vacant by the death of Professor Rutherford. A number of quite distinguished names have already been presented, among which are those of Professor Schäfer of University College, London, well known for his superb histological work in the new "Quain"; Professor W. D. Stirling of Owens College, Manchester, and Dr. E. Paton of Edinburgh.

The emoluments of the chair are officially announced at $7000 per annum. Not a few of the Scotch chairs are surprisingly well paid. The chair of anatomy in Edinburgh by dint of various "hereditary" grants and dues which have been accumulated is reported to be worth $20,000 per annum. Several chairs in both Edinburgh and Glasgow draw from $8000 to $12,000 and

even in Aberdeen, far North as it is, a number of the chairs both scientific and medical run about $5000.

In spite of our huge donations and legacies to universities and colleges, we are really falling behind in America in the matter of salaries, for much to my surprise, I find that the class of teachers who with us are getting $2500 to $4000 (and there are few enough of any class at the latter figure) here receive from $4000 to $6000. Even the German universities are becoming more liberal, for when in Berlin this summer several *privat docents* inquired as to the supposed large salaries in America and were greatly disappointed when they learned their real figure. The leading chairs in the University of Berlin are worth from $10,000 to $15,000 a year, chiefly from a share in students' fees.

The Scotch salaries come chiefly from old, long-established government grants or municipal funds, proof of the splendid public spirit which has always prevailed in poor but plucky Old Scotia in respect to education. The body which will elect Professor Rutherford's successor, known as the "Curators of Patronage," are seven scientists, four chosen by the Town Council of Edinburgh and three by the Court of the University. If England instead of endowing fat priests and progress-hating bishops had "established" education three centuries sooner, she might not have been compelled to draw so many of her best workers and thinkers from north of the Tweed.

The Medical Society of London has just celebrated its 126th anniversary by that most solemn and sacred rite known to the Englishman, a dinner. At the close of the speech-making, which was of a comparatively cheerful character, the President, Mr. Edmund Owen, presented the Fothergillian gold medal to Dr. Monkton Copeman for his work upon glycerinated lymph in vaccination.

Professor Burden Sanderson of Elsford delivered last week the Croonian lecture before the Royal Society upon "The Electric Concomitants of Motion in Animals and Plants."

Owing to the death of Professor Kanthack it is announced that no summer medical session can be held at Cambridge this year.

Lord Lister has been elected as an Associate of the Academie de Medecine of Paris. It is an amusing comment upon the force of "patriotism" even in the most sublimely scientific circles that Koch was also elected at the same meeting and that while Lord Lister's vote was unanimous and by acclamation upon Koch's several of the members abstained from voting.

The public is greatly concerned over the fact that nearly 35 per cent. of the recruits for the army during the past year were rejected on physical grounds, but as nearly half of these rejections were on account of defective teeth the matter hardly seems serious enough to talk of "racial degeneration." It will be remembered that our own army medical examiners rejected almost as many and for the same most frequent cause.

Mr. Frederick Treves, who resigned his surgeonship at the London Hospital on account of the pressure of his private practice—and because certain ancient and hidebound rules and traditions would not allow him to delegate the drudgery of his hospital work to assistants—has been appointed Emeritus Professor of Surgery, which honorary position involves the delivery of four lectures a year.

Mr. Justice Darling voiced the sentiments of the community at the late Chester Assizes when he protested against "sham death-sentences" and advised a grand jury in considering an abortion case not to bring in a bill of murder unless they thought the offense was committed with intent to kill.

Two cases of the use of preservatives in milk have recently been before the courts, one in Liverpool and the other in London. Formalin was used in one case and borax in the other and the addition admitted in both cases by the vendors. As usual the profession stultified itself by testifying "expertly" upon *both* sides of the question as to whether the said adulterants were harmful. One set of experts declared the drugs to be poisonous and capable of producing "diarrhea, indigestion and eczema," while the other averred them to be in the quantities used as harmless as common salt and of direct value in preventing decomposition. So the puzzled magistrates dismissed the cases. When are we going to have the sense to recognize that *no* non-dietetic addition of any foreign substance whatever to milk, cream or other perishable foods ought to be tolerated on the ground that it not only permits and covers up but puts a premium upon careless and dirty handling at every stage of its production and shipment?

Dr. Monkton Copeman's Nulvey Lectures on the "Natural History and Pathology of Vaccination" have just appeared in book form and are attracting wide attention. It will, we think, be news even to most medical men to learn that Jenner's original thesis that cowpox was smallpox modified by the tissues of the cow, has been experimentally verified by no less than fourteen different observers since 1801 including Dr. Copeman himself. Nearly all the lymph at present in use is the "descendent" of one or another of these inoculations, spontaneous cowpox being a very rare disease of late years, though apparently much commoner in Jenner's time.

From a study of the results of these inoculations Dr. Copeman finds that repeated inoculations of the first "cow-smallpox" from heifer to heifer are necessary before the disease becomes thoroughly transformed and the lymph safe for vaccination purposes. It was ignorance of this fact that led to the unfortunate reproduction of smallpox by vaccination by Chanveau in 1865 and our own Martin of Boston in 1860, hugely to the joy of the "antis." It also accounts for the fact, stated by Mr. Jonathan Hutchinson in discussion a few days ago, that in his early years of practice he had seen several cases of vaccinia which were in no respect to be distinguished from smallpox except that they did not prove infectious to others. He related a most disquieting experience of his own in which a former student of his reported to him the death of a child from an alleged "vaccination-disease" and offered to have the body sent up to his clinic for demonstration.

He accepted the offer but when the cloth was lifted

from the body in the presence of a theater full of medical men and students he found to his dismay that the case was in every detail one of malignant smallpox. He went home extremely unhappy and for a week after kept dreading to hear of an outbreak but to his great relief not a single case developed either among the audience present or in the family of the child. Dr. Copeman used monkeys extensively in his experiments and found that they were susceptible to both variola and vaccinia although the former was never fatal to them. He also gave his lymph the "variolation" test which its critics regret cannot be used for effective testing and standardizing, by inoculating monkeys which had recovered from vaccination with virulent smallpox virus, in every case with negative results.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

NON-PULSATION IN ANEURISMS AND THE TREATMENT OF ANEURISMS—AUTO-INTOXICATION AND ITS RELATION TO THE TREATMENT OF DISEASE—"PSEUDO-TUBERCULOSIS"—VARIETIES OF ECZEMA AND THEIR TREATMENT—VANISHING TUMORS—THE COMMUNICABILITY OF TYPHOID FEVER.

AT the Royal Medical and Chirurgical Society, February 28th, WALSHAM made some remarks on non-pulsating aneurisms, and on the extirpation of aneurisms in general. He described a case of slowly growing aneurism in the neck of a patient aged forty-eight years. No pulsation could be felt in the tumor, nor any bruit heard over it. A needle was thrust into it, but no fluid could be withdrawn. The swelling was considered glandular, and probably malignant, and was cut down upon for the purpose of removal. It was then found to be an aneurism of the common carotid. This vessel was ligated and divided, and the whole aneurismal sac dissected out and removed, the efferent vessels being ligated as they were exposed. The patient recovered. Non-pulsation in an aneurism is a rare symptom, and in this case did not seem to be easily explained since there was no leaking of the sac nor blocking of its mouth with clots. The operation described may be looked upon as the ideal method of treatment, and its risk is very slight. It is indicated (1) when there is insufficient room to apply a ligature to the artery on the proximal side, or when a proximal ligature is attended by great risk, as ligature of the innominate for subclavian aneurism; (2) when a number of large vessels communicate with the sac; (3) when other measures have failed to cure the aneurism; (4) when the aneurism, as in the popliteal artery, has become diffused, or rupture of the sac or gangrene of the limb is threatened; (5) when the setting free of the emboli, as in carotid aneurisms, would be attended by risk of cerebral softening. In these conditions this method of treatment is probably the best; but for an ordinary popliteal aneurism without complications, enucleation can hardly be compared with such a simple and usually successful procedure as ligation of the popliteal artery or even of the femoral at the apex of Scarpa's triangle.

GODLEE excised a popliteal aneurism, and the patient had an annoying edema of the leg, more than is usually seen after ligation of the femoral.

GOULD had a patient with an aneurism of each popliteal artery. He ligated the vessel on one side and performed excision of the sac on the other. There was more interference with the circulation on the side where the femoral artery was ligatured at a distance from the aneurism than on the side where the aneurism was excised; for six months after the first operation the right leg felt numb, and no pulse could be detected in the tibial arteries, while pulsation returned in the tibial arteries on the left side three weeks after excision of the aneurism. He considered that it is not necessary to excise the whole of the sac, in cases in which it is adherent to a vein for example. In a nervous patient he had once tied the femoral, thinking thereby to cause less shock than by excision. Gangrene of the leg followed, rendering amputation necessary, which he was inclined to think might have been avoided had the sac been excised.

BOWLBY said that an examination of many museum specimens had convinced him that the artery, contrary to the general opinion, is more healthy near the aneurism than it is at some distance nearer the heart. This is especially true of popliteal aneurisms, which should therefore be ligated near the sac and not in Scarpa's triangle.

WALSHAM thought it better to remove the whole of the sac if possible as it facilitated the healing of the wound, and also because branches which open into the part of the arterial wall which is left might be overlooked and so give rise to secondary hemorrhage.

At the Medical Society, February 27th, MARTIN read a paper on auto-intoxication and its relation to the treatment of disease. The term is used to designate three different conditions: poisoning from the gastro-intestinal tract, the poisoning of chronic disease, and the poisoning from the glands of the body, thyroid, etc. With reference to the first form of auto-intoxication, it may be said that most of the intestinal bacteria are non-pathogenic as long as they remain in the intestine. If the products of putrefaction are absorbed the body is poisoned, but this process frequently passes from one of intoxication to one of infection of the intestinal wall or of the peritoneum by the germs themselves. Again in the normal processes of digestion bodies are formed which possess poisonous properties, and if they are absorbed without further change they may give symptoms of poisoning. In uremia it has been shown that the toxic properities of the urine are diminished and it may fairly be inferred, therefore, that poisons are retained in the blood which would normally be eliminated.

At the sessions of the Pathological Society, held February 21st, and March 7th, there was a discussion on "Pseudo-tuberculosis," a term which was used by the different speakers to cover a variety of lesions mostly occurring in animals. These lesions suggested tuberculosis either in their gross appearances, or in the fact that they contained bacilli which acted toward stains in a manner similar to that of tubercle bacilli.

FOULERTON said that it was a fallacy to suppose that there was anything truly characteristic about a tubercle,

since a similar lesion may result from the action of many different bacilli, just as an abscess may be produced by the action of several different organisms. But no one thinks of speaking of all the abscesses which are not produced by one particular germ as pseudo-abscesses.

HUTCHINSON admitted that the word "pseudo-tuberculosis" is unscientific, but he thought that it at least had the advantage of not committing the profession to a particular theory in the case of an obscure lesion. Names thus hastily given may later be found to be erroneous, as has frequently happened, for example with the word uremia.

At the Harveian Society, February 16th, WHITFIELD read a paper on varieties of eczema and their treatment, in the course of which he said that the evidence that eczema is of a parasitic origin is almost wholly clinical, and that while certain experiments tend to show that certain seborrheic forms of eczema are parasitic in their origin, that until the different microbes of the different varieties have been isolated, as has been done with the ringworm, it is better to group them all together as a seborrheic eczema. There are two main opinions as to the nature of simple eczema. One regards it as the outward manifestation of a constitutional disorder, and the other ascribes it to the action of some local irritant. The parasitic theory of simple eczema is as yet entirely unproved. In the treatment of supposed parasitic forms, antiparasitic remedies may be used much more freely than in simple eczema. In acute weeping eczema it is better to treat the skin with soothing lotions which have just enough antiseptic power to prevent the growth of any accidental contamination with cocci. When the discharge has ceased ointments can be used, and they should be firm enough not to run into the covering, and leave the surface dry. Later stimulating applications may be made to resistant patches, and it has even been recommended to scarify very old and thickened parts.

THORNE said that he attached more importance to toxic conditions of the blood in relation to eczema than Whitfield was disposed to accord to them, and he could not regard as valid the argument that if the kidneys were sound they must be innocent of mischief, because they might, by habit and regimen, be inhibited from performance of their normal function. He instanced the case of a woman who for seven years had suffered from a severe form of eczema palmaris with inflammation of the matrices and deformity of the nails. The total daily ingestion of fluids including tea, coffee, and claret was barely seven-eighths of a pint. In three weeks the disease was arrested by the use of an ointment containing ammoniated mercury, of a mixture containing grain doses of potassium iodid, and by the ingestion of two pints of water daily. The result had been maintained mainly, as the speaker believed by the continued use of the water, which gave the kidneys an opportunity to promote the purity of the blood.

At the meeting held March 2d, POWER read a paper on vanishing tumors. He mentioned in illustration three cases, one that of a cystic lymphangiomata of the neck which had been noticed soon after birth, and which had been tapped 150 times with a trocar and cannula. The tumor had disappeared after the removal of a portion of it. The disappearance of the remainder was preceded by three attacks of lymphangitis. In a second case the abdomen was opened to relieve the cause, if possible, of a marked increase in size of the liver of a child, associated with jaundice and fever. On the supposition that there was an abscess, a trocar was thrust into the liver in several directions, but no pus was obtained. The wound was closed and the patient recovered; all the symptoms, including the increased size of the liver, disappeared. Other cases were mentioned; one of a vascular growth in the pelvis, and another in the lumbar region, which were exposed by operation and thought to be sarcomatous, too extensive for removal. They disappeared completely in three or four months. Six or eight tumors developed in a man's scalp after a blow from a part of a fly-wheel. One was removed, and shown by microscopical examination to be a fibrosarcoma. Some of the others disappeared spontaneously. The speaker also pointed out the diminution of a hypertrophied prostate after removal of the testicle, and the atrophy or disappearance of adenomata of the breast as the result of pregnancy and lactation as illustrations of the spontaneous disappearance of tumors.

JULER mentioned a case of tumors of both orbits in which the microscopical diagnosis was sarcoma. They disappeared after the administration of mercury and iodid of potash.

DORAN mentioned the disappearance of fibromata of the abdominal wall in two cases which had come under his notice.

EASTES referred to the large number of vanishing tumors which are associated with some part of the genital tract, including the female breast. A striking instance was furnished by the uterine fibromyomata of middle life. Most of the disappearing tumors of the abdomen were fecal accumulations.

GUTHRIE thought the spontaneous disappearance of tumors might be due in some manner to the cutting off of the blood-supply, not in a manner which can be accomplished by surgery, but through the vasomotor system. This might explain the success which was said to follow the application of toads to cancerous breasts in the last century. The skin of a toad excretes phrynin, which is a powerful vascular astringent. It should not be forgotten that strong mental emotions may possibly affect the sympathetic system so as to cause a local constriction of blood-vessels. In this manner may be explained the miraculous cures of cancer at Lourdes and elsewhere.

At the Epidemilogical Society, BOOBBYER read a paper on ten-years' experience with typhoid in a midland town. Emphasis was laid on the personal communicability of typhoid. His conclusions were that (1) a sustained mean temperature of over 55° F. was followed by a higher autumnal rise in the prevalence of typhoid, and a cooler summer by a lower than the average; (2) that the disease was endemic in poor, crowded districts irrespective of elevation and geological formation, provided soil pol-

lution and like favorable conditions were present; (3) that even on foul made-soil and where pail closets were in use the better class of houses suffered less than the poorer; (4) that the incidence was far less in houses with water-closets than with dry conservancy, and heavier in those with middens than in those where pails were used, the differences being more marked in the poorer class of houses; and (5) that it was directly communicable by personal intercourse even in well-regulated hospitals, and more so in the confined dwellings of the poor.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held Thursday, March 9, 1899.

THE President, DR. WILLIAM H. THOMSON, in the Chair.

DISCUSSION ON SYPHILIS.

(Concluded from page 414.)

The third paper of the evening on

VISCERAL SYPHILIS IN CHILDREN,

was read by DR. A. JACOBI.

Children suffer not infrequently from syphilitic lesions of the lungs. The most frequent forms of the pulmonary affection are gummata and interstitial change. Not rarely it is complicated by pulmonary tuberculosis, the tendency to which at least is inherited from the mother, the syphilis coming from the father.

The heart is not often affected though cardiac gummata do develop at times and there is a syphilitic fibrous myocarditis. As regards the blood itself we are coming to realize more and more that profound essential changes may take place in this fluid tissue as the consequence of syphilis. Escherich pointed out the connection there may be between syphilis and pernicious anemia. Others have shown the etiological relation of the disease to pemphigus, symmetrical gangrene, etc.

The jaundice of syphilis in children occurs after 2 or 3 weeks, never on the second or third day, so that it is not hard to distinguish it from the icterus neonatorum which occurs within a few days after birth. Heubner's absolutely unfavorable prognosis in these cases seems scarcely justified by clinical facts, at least not by observations made here in America. Professor Jacobi himself has had two patients completely recover and they are still alive. The liver during the course of syphilis may be the seat of very various lesions so that the symptoms are most variable. The spleen is often affected by syphilis, enlargement and induration sometimes with tenderness having been observed, but it is to be remembered that the spleen may be palpable yet not be enlarged, the possibility of its palpation being due to ptosis or prolapse of the organ.

A very interesting and extremely important and practical phase of syphilis in children is the development of retarded syphilis. This is rather a metasyphilitic or parasyphilitic form of the disease than a frank manifestation of congenital syphilis. It is a metamorphosis of the familiar affection that gives no symptoms until the children are five or six, or even seven or eight years of age. Then it is noticed that the children do not thrive, that they are underweight, puny, and delicate, pale and sickly, without the appetite and energy that normal children of their age should have. There is very little subcutaneous fat and its absence is easily noted in the pale thin skin through which the blue veins may be clearly seen. Such children are sometimes precocious mentally though they may, on the contrary, give evidence of intellectual hebetude.

It would seem from observation of such children that a true metasyphilitic condition exists. It is, however, almost without exception ameliorated by specific treatment; such cases are often very puzzling. They fail to improve on iron and arsenic or the improvement is but slight and not persistent. A course of mercury and the iodids, however, continued for three to four months brings improvement, and then this improvement may be continued by the judicious administration of arsenic and iron, by exercise, air, tonics, and other measures calculated to better the general health.

The last paper, entitled

SYPHILIS IN RELATION TO OBSTETRICS

was read by DR. EGBERT H. GRANDIN. He insists on thorough inspection of the genitals before gynecological or obstetric examination is made. It seems almost providential that more doctors are not infected from a neglect of this rule. Examinations are sometimes almost completed, in cases where inspection does not precede, before the doctor finds to his utter disgust and subsequent mental discomfort that his patient is undoubtedly syphilitic, and that great risk of infection has been run needlessly. As it is many a doctor in the city and in the country is suffering from syphilis acquired in this way. The necessity for the greatest precautions and of frequent reminders, for a certain familiarity with the danger begets forgetfulness, is evident.

Syphilis is the great cause of sterility whether relative or absolute, *i.e.*, sterility either with conception occurring but inevitably followed by abortion each time, or positive absence of conception. It would seem at times when the menstruation appears to recur regularly, that what really takes place at each or at least at certain menstrual periods is an abortion. The uterine mucosa, owing to syphilitic alterations in it, not having sufficient vitality to retain the ovum during the recurring monthly nervous impulse, proliferation, and fatty degeneration asserts itself. Habitual abortion is a misnomer if really considered to be a faulty habit of the organism as it is always syphilitic in origin.

Specific treatment in all cases of pregnancy where syphilis is known to exist in either parent is of the utmost importance. Active antisyphilitic treatment may even save an affected fetus, especially if the infection has come after the sixth month. No wet-nurse can justifiably be allowed to nurse a child no matter how clean seemingly its personal bill of health if either parent has had syphilis. The mother should be encouraged to nurse her own child especially in these cases of lowered vitality.

Syphilis constitutes the great menace to households, and while the speaker was not Utopian in his hopes for improvement in present conditions from legal enactment he is sincerely of the opinion that legal regulation will yet have to be appealed to to prevent the spread of specific disease. Legislation is much more needed in this matter than for tuberculosis which is at present attracting so much attention. Certain States, as Texas and Massachusetts, already have laws against syphilis. A notable attempt was made recently in a Western State to secure proper certification of the health of people before marriage. This may yet be considered as Quixotism, but some such legal regulation will surely come in the not distant future.

It is absurd to quarantine as we do against other and much less dangerous diseases and allow syphilis to spread absolutely without let or hindrance. It is a strange inconsistency due to certain mistaken notions of modesty and so-called propriety that whenever sexual questions assert themselves they are simply ignored. But this state of affairs cannot and will not be allowed to continue much longer without a serious attempt to solve the serious questions involved.

In the discussion, Dr. H. H. Smith said that the iodids do good in the treatment of syphilis in two ways: by their stimulation of absorptive powers and by their effect upon the circulation. They dilate the peripheral vessels and so lessen the strain upon the already fibrous heart. The iodid of potash as used in the Tufnel treatment for aneurism lessens the general blood pressure and so diminishes the tension on the arterial walls and upon the aneurismal sac.

Dr. Jacobi said that iodid of potash has a wide field of therapeutic application outside of syphilis. The iodids are favorite drugs of his. After peritonitis and other inflammation of serous membranes they are of the greatest assistance in helping to carry off the inflammatory material that has been deposited. Non-specific glandular swellings may also be successfully treated by the same drug, though it will have to be administered for months. patients suffering from these obscure ailments may be greatly relieved by a course of the iodids to which mercury in small amounts is sometimes added with great benefit. Potassium iodid often does good even in non-specific cirrhosis of the liver, and tabes dorsalis, though not always due to syphilis, may often be distinctly benefited by this same remedy.

Dr. Bielapowski said that mercury, as well as the iodids, does good, not by acting directly against the virus of the disease, but by its action on the tissues. Hence it is that other chronic pathological processes in the tissues not unlike those produced by syphilis are benefited. Psoriasis lepra and tuberculosis might be mentioned.

Stated Meeting, Held March 16, 1899.

(Discussion on Syphilis Concluded.)

The first paper of the evening, entitled

SOME SURGICAL ASPECTS OF SYPHILIS

by Dr. Frank Hartley, was read, because of his unavoidable absence, by the Assistant-Secretary, Dr. Huddleston. It will appear in a future issue of the Medical News.

The second paper, on

SYPHILITIC DEMENTIA AND PARETIC DEMENTIA AND TREATMENT OF SYPHILIS OF THE NERVOUS SYSTEM,

was read by Dr. Charles K. Mills of Philadelphia. He said that a better title for his paper would be "Syphilitic Insanities and Pseudo-insanities; Their Prognosis and Treatment, with Some Remarks on the Treatment of Syphilis of the Nervous System." In the consideration of syphilitic affections of the nervous system affections due indirectly as well as directly to the disease must be considered, *i.e.*, the parasyphilitic and metasyphilitic affections that have occupied so much attention of late must be considered under this head though they are not truly specific.

The forms under which insanities as a consequence of syphilis occur are, first, as toxic syphilitic insanities; second, as dementia paralytica which is really a parasyphilitic condition, and finally as an accompaniment of syphilitic pseudoparalysis. Syphilitic toxemias, with mental symptoms, may take the form of melancholia, of mania, or of stuporous dementia. The melancholic state of depression is really a consequence of the action of the toxins of the disease, and is not due to drugs nor to apprehension. It may often be complicated by other symptoms than those of typical melancholia. Especially is it often accompanied by neurasthenia. Not infrequently a suicidal impulse develops during the depression and patients may need careful surveillance.

The mania due to syphilitic toxemia does not differ materially from the ordinary mania of acute mental disease. The apathy that occurs in dement states is of other stuporous variety. It is to be remembered that any of these mental conditions may develop as the result of syphilitic toxins without the occurrence of a single symptom pointing to organic involvement. The eyes may be absolutely unaffected, the knee-jerks, and other reflexes absolutely normal.

That general paralysis is usually a result of syphilis seems clear to Dr. Mills, and he holds tabes and general paralysis to be varying and variously localized manifestations of an identical pathological process. Analogously, syphilitic pseudo-tabes and syphilitic pseudo general paralysis are comparable. Degenerative or true tabes and general paralysis are usually and remotely though not always post-syphilitic in origin.

The prognosis of general paralysis is absolutely fatal. The treatment can only be symptomatic and palliative, but the physician owes it as a duty to his patient to keep him out of the hands of quacks who but exploit his helpless mental condition and impose upon the sympathies of his friends.

Syphilitic pseudo-paresis, due directly to multiple syphilitic lesions, in the membranes of the brain, in its blood-vessels, in the nervous substance itself, and especially in the cortex has not so unfavorable a prognosis if treated early. The treatment, however, is just as hopeless if it is

undertaken too late for degeneration takes the place of inflammatory exudation and will not yield to remedies. It is to be borne in mind that such syphilitic pseudo-paralyses may occur at any time after infection. It may be that only a year or two will have elapsed, but they may supervene long years after infection.

The conclusions as to the treatment and its effects may be briefly stated thus: Meta- and parasyphilitic conditions are not helped but hurt by specific medication. Recent direct syphilitic processes in the nervous system, especially when they do not involve nervous elements primarily disappear as a rule under properly directed syphilitic treatment.

Those that run a subacute course are the most hopeful. Very acute processes may kill before specific medication has its effect so that there is need for vigorous treatment. Often a rapid reaction can be obtained that will save life even when things look hopeless.

Chronic syphilitic processes in the nervous system as, for instance, Erbs' syphilitic spastic spinal palsy never get entirely well. They react to specific medication but only to a certain degree, and all traces of the process are never entirely removed. True syphilitic pseudo-tabes is rare, but does undoubtedly occur. When recognized as such and properly and persistently treated its prognosis is not very unfavorable though time is an important element, and none must be lost.

With regard to the syphilitic insanities this may be said: when due to a pure toxemia they are, as a rule, perfectly curable, and react well to specific treatment. General paralysis and its mental manifestations are, of course, incurable. In general, it may be said here as in the case of the neurological conditions that if the mental conditions are directly specific and recent, they can be cured; if they are chronic and degenerative they cannot. In even favorable cases their persistence for any length of time makes the prognosis proportionately worse.

The next paper, on

SYPHILITIC AFFECTIONS OF THE SPINAL CORD,

was read by DR. BERNARD SACHS. He said that our knowledge of syphilis of the nervous system has advanced very much from the time when we used to make the diagnosis of the affection by the exclusion of all other causes. Syphilis of the nervous system is undoubtedly on the increase. The latest statistics seem to show that, excluding tabes and general paralysis, 15 to 25 of every 1000 patients suffering from syphilis have nervous affections from the disease. The increase in syphilis of the nervous system is undoubtedly due to the fact that the struggle for life has became more intense of late years, especially in large centers of population, and that the consequent exhaustion of the nervous system has left it less resistive to the invasion of disease processes. It has been argued that the increase is only apparent and due to better diagnosis, but this, while it is a factor in the larger statistics, does not account entirely for the larger number of cases reported in recent years.

It has been said that syphilitic nervous symptoms develop oftener among those whose original syphilitic symptoms were milder than usual, and Dr. Sachs' experence seems to agree with this. Whether early treatment really influences the development of later nervous manifestations or not is something we do not know. They develop in those who have been carefully treated and do not seem to pick out especially those who have been carelessly treated.

We have learned to realize that the distinction between secondary and tertiary lesions does not hold in the nervous system. We may have cerebral symptoms during the first six months of the disease, and spinal symptoms may develop while the cutaneous lesions are still running their course. Certain undoubted cases have been reported where symptoms in the central nervous system developed before the primary lesion had disappeared.

The most frequent lesion in the central nervous system is the occlusion of blood-vessels by a syphilitic endarteritis. Vessels may not, however, be entirely occluded at once so that transitory symptoms may develop as a warning of the process that is at work.

The multiplicity of lesions and their fleeting, variable character are often the best diagnostic points of beginning syphilis of the nervous system. The multiplicity of lesions is at least as important in the diagnosis of syphilitic central nervous lesions as Dr. Fox showed it at a previous meeting to be for syphilitic cutaneous lesions. Suspicious symptoms are headaches, eye troubles, passing hemiplegias, apoplexy, especially in comparatively young patients without heart or kidney trouble. Dr. Sachs pointed out some years ago how valuable for the diagnosis of syphilis in puzzling conditions of the nervous system is the pupil. Further experience and observation has only served to confirm this opinion. It is in his opinion much more important and valuable as a diagnostic sign than the bony lesions or epitrochlear and other glandular enlargements that are usually looked for. The important pupillary diagnostic points are: (1) inequality of the pupils; (2) unequal response to light; (3) failure to respond to light (this, others have dwelt on, especially Jonathan Hutchinson); (4) a circularity of the pupil, especially on contraction, and occurring when there are no iritic adhesions.

Silex of Berlin especially pointed out these as diagnostic points in obscure syphilis of the central nervous system: (1) choroiditis; (2) scars at the angle of the mouth; (3) irregular and early carious teeth. Vertigo is sometimes an urgent early symptom. In a Canadian physician who consulted Dr. Sachs some time ago after having been under treatment for all manner of supposed causes of the symptom at the hands of various specialists, his vertigo proved to be the only symptom of nervous syphilis that had as yet manifested itself. Syphilitic apoplexy, if thrombotic, affects especially the base at the interpeduncular space commonly, and ocular palsies and double or anomalous optic neuritides develop. This syphilitic double optic neuritis must be borne in mind because a double optic neuritis is sometimes considered pathognomonic of tumor.

For spinal lesions spastic palsy invading first one side then the other is very significant, and usually indicates a syphilitic basis for it.

Syphilitic pseudo-tabes may be diagnosed from true tabes by this tendency to affect one side more than the other. One leg will be more ataxic than the other, one knee-jerk or other reflex will be more affected than the other, one eye will be more affected than the other. In true syphiiitic pseudo-tabes the pupils are often immobile—a very important sign which is not a mere clinical fancy but an important symptom often observed.

The fourth paper of the evening, on

OPHTHALMOLOGICAL ASPECTS OF SYPHILIS,

was read by DR. CHARLES STEDMAN BULL. It will appear in a subsequent issue of the MEDICAL NEWS.

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ORIGINAL ARTICLES.

THE DIFFERENTIAL DIAGNOSIS OF PELVIC AND ABDOMINAL DISEASES IN THE FEMALE.

BY PAUL F. MUNDÉ, M.D.,

OF NEW YORK;

GYNECOLOGIST TO MT. SINAI HOSPITAL.

IN no other part of the human frame is the recognition of the more complex forms of disease more difficult and confusing than in the female pelvis and abdomen, with, perhaps, the sole exception of the brain. At least so it appears to the gynecologist if he frankly admits the truth, and reviews with a dispassionate and humble spirit the many occasions where his experience and skill have failed him and the correct diagnosis has been revealed at the exploratory laparotomy, at the autopsy, or, if made during life, too late to benefit the patient.

I have admitted one of the two other great cavities of the body, that containing the brain, to be subject to the same difficulties of exploration and diagnosis as the abdominal and pelvic cavities, but I do not extend the same concession to the remaining cavity, that of the thorax, for the reason that it contains but two organs, the heart and the lungs, the diseased conditions of which are usually easily recognizable. In the pelvic and abdominal cavities, however, we have in the female not only the generative organs which in disease may invade the general abdominal cavity, but also the liver, gall-bladder, intestines, stomach, pancreas, spleen, and general peritoneum, to which should be added the kidneys and ureters which, though retroperitoneal, are subject to diseases simulating intraperitoneal conditions.

All these abdominal organs are in health so covered and protected as to be difficult of palpation; besides a not uncommon excessive adipose development and rigid or over-sensitive abdominal walls form additional obstacles, and the natural aversion of a modest woman to exposure of her person contributes a decided objection to an examination, which at the best can extend only to her external genital organs, vagina and cervix. Beyond that the same drawbacks apply which I have mentioned in the case of the abdominal viscera.

If, now, the gynecologist with his specially trained touch often finds himself unable to arrive at a satisfactory conclusion in regard to a doubtful case, the general practitioner, and still less the specialist in some other branch, cannot be blamed if he fails to make the correct diagnosis, provided, of course, that he faithfully employs such knowledge and experience as he happens to possess and omits none of the usual methods of examination.

Before speaking of special instances of difficult differential diagnosis it may be well for me to say that an examination of other organs than those constituting the female sexual apparatus, especially the urinary and digestive tracts and their secretions should never be omitted when advice is sought for some supposed "female trouble." The bladder should be examined by bimanual palpation in regard to unusual sensitiveness which, if present, is generally found at the trigonum, between the mouths of the ureters; the ureters should be sought by the intravaginal finger, and can frequently be detected in health, and always if swollen or tender, as is commonly the case in pyelonephritis. I have even felt a stone impacted in the ureter, and by removing it through a vaginal incision have relieved a pyelonephrosis of the kidney which would otherwise have escaped discovery. The urine should be chemically and microscopically examined whenever there is the least suspicion of disturbance of the urinary organs, and if inspection or a superficial chemical examination in the office suggests possible organic vesical or renal disease, a specimen should be procured with the catheter and be sent to a competent urinologist for careful examination. Many a case of doubtful pelvic and abdominal pain for which the sexual organs proper offered no solution has thus been found to be due to pyelonephritis, renal calculi, cystitis, stone, or tumor in the bladder.

By a digital eversion of the rectum, easily performed with two fingers in the vagina, fissure of the anus, catarrh, and ulceration of that organ, internal hemorrhoids, polypus, or even pinworms, may be readily exposed, and recognized as the cause of the pain in the sacral, coccygeal, and perineal regions, which was supposed to be due to some so-called "womb disease." If this digital eversion leads to a suspicion of disease higher up, a small cylindrical speculum, or two small Sims' specula inserted, if necessary, after the introduction of a tampon soaked in a four-per-cent. solution of cocain, will permit inspection of the rectum nearly up to the sigmoid flexure.

The condition of the coccyx should also be investigated, and its mobility, direction, and tenderness tested. Mere pain in the coccyx, when unconnected with dislocation, fracture, or disease of its periosteum, is no evidence of pelvic disease, but usually a sign of general neurasthenia, and almost invariably associated with pain or ache in the favorite locations of that distressing affection, *viz.:* base of the sacrum, intrascapular, cervical, occipital, left parietal and supra-orbital, and left submammary regions. Pains complained of at all, or the majority of these points, may unhesitatingly be ascribed to neurasthenia, and need not by any means necessarily depend upon or even be associated with any pelvic disease whatever.

Further, it is well to bear in mind the peculiar mental and nervous organization of female patients in properly estimating the acuteness and gravity of their complaints. Some women, especially of the lower classes, systematically exaggerate their ailments and magnify every symptom; others, of the hysterical, hyperesthetic, neurotic temperament, really feel, or imagine they feel, pain here, there, and everywhere, for which a careful examination can find no cause.

Cutaneous hyperesthesia of certain parts of the abdomen, thorax, back, or limbs may simulate inflammatory conditions of deep-seated organs. If the painful or tender points are on the abdomen, peritonitis, appendicitis, salpingo oophoritis, metritis, or cystitis may be suspected, and their absence discovered only on examination under anesthesia. A hyperesthetic uterus, peritoneum, vagina, vulva, or excessively tender ovaries and tubes may likewise be mere nervous disturbances found frequently in neurotic, hysterical women.

Again, the explanation of the etiology of many pelvic, abdominal, and dorsal pains must be sought in the constipation to which the majority of women are subject, to colic, chronic colitis, fecal impaction, intestinal indigestion and fermentation, and worms. A curious instance recently came under my observation of a young lady who consulted me for pain in the rectum attended by mucous discharges. I found the sexual organs healthy, but the rectal mucous membrane intensely congested. On seeking for the cause of this congestion, I learned that the lady had for some months been taking daily enemata of very hot water to relieve constipation, they having been ordered by her physician. Before taking these hot enemata there had been no mucous discharge and I suspected the hot water to be the cause of the trouble. I ordered a discontinuance of the hot enemata, a daily enema at night of 4 ounces of olive oil and lime water, equal parts (which I have found an excellent soothing remedy in catarrhal proctitis) to be retained, and a mild laxative, and requested her to report again in two weeks, when the discharges had ceased and the rectum was found normal. The lesson from this case is that the delicate mucous membrane of the rectum does not bear the unlimited hot douches which the comparatively tough cutaneo-mucous lining of the vagina not only endures with impunity, but even with complacency and benefit.

In proceeding to the consideration of our subject in detail, I know of no better way than to take up *seriatim* the most prominent diseased conditions of the female genital, pelvic, and abdominal organs, in which difficulty or error in diagnosis are most likely to occur. I shall not, of course, touch on all abnormal features, for that would carry me too far and prove unnecessary and wearisome.

Of diseases of the vulva I shall mention prominently that first described as *kraurosis* by the late Professor Breisky of Prague. This peculiar and rather rare affection may be mistaken most readily for eczema, indeed it has been so called by several eminent dermatologists. But it is essentially different. In eczema the skin is diffusely red, inflamed, scaly, dry or later moist; the eruption extends not only over the whole cutaneous portion of the vulva, but also may spread to the thighs, groins and abdomen. The inner surface of the labia is not affected. The pain is a burning, itching, scalding sensation.

In kraurosis, the disease attacks chiefly the mucocutaneous surfaces, the clitoris, labia minora, vestibule, hymen, vaginal introitus, perineum and the anal border. The true skin itself I have never seen attacked elsewhere about the vulva. The diseased surface is not uniformly red, quite the reverse; it is covered with dry, white patches of different size, interspersed with irregular red spots; the surface cracks and bleeds easily; the whole tissue seems infiltrated with a white, cheesy matter which can be scraped away with the finger-nail until the red, underlying cutis vera is reached; the pain is sharp, darting, intense. Finally, eczema is usually easily cured by local applications, whereas kraurosis seldom yields to any remedy short of the excision of the diseased parts and the approximation of the healthy edges by sutures.

Deformities of the external genital organs, if congenital, are usually of the variety known as *androgyny* or man-woman, that is, the individual is of the masculine gender, possessing a short, hypospadiac penis, thick labia, each containing a testicle and epididymis; or one testicle may be in the groin and the other still in the pelvic cavity or abdomen; a vagina of greater or lesser depth, but of course no uterus or ovaries.

Far less common is the variety called *gynandry*, or woman-man, which is characterized solely by a hypertrophied clitoris, the rest of the external and internal sexual organs being distinctly feminine. There is no difficulty in distinguishing between these two forms of spurious hermaphrodism. More puzzling are the rare cases (there being only six on record) where the individual possesses every characteristic of a perfect woman, locally and generally, but has no uterus or ovaries, and instead in the labia, groins or abdomen on each side a testicle and epididymis. Only a microscopical examination of these, in life, doubtful organs can settle, and has in five of these six cases (mine being the exception) settled the question of their being testicles.

The urethra and bladder present two pathological conditions of diagnostic interest, *urethrocele* and *suburethral* abscess. Both are not very common and may be mistaken for one another and for cystocele, as well as for the natural urethral bulb. Urethrocele is a sacculation of the urethrovaginal septum; suburethral abscess is a collection of pus in the same septum. Both open into the urethra; the former by a large, the latter by a small, opening (see Figs. 1 and 2) which constitutes the difference between them, for both cause painful urination through the purulent decomposed urine which each cavity contains. The diagnosis is easily made by the catheter

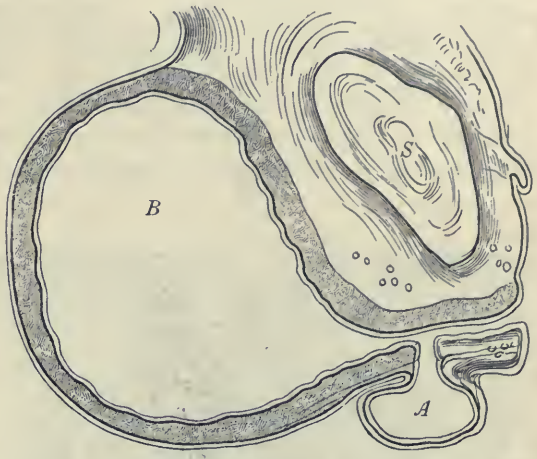
Fig. 1.

Sectional view of urethrocele, showing large opening into urethra. *B*, Bladder. *U*, Urethrocele. *S*, Symphysis.

or sound, which shows the size of the opening, and the existence of the abnormal pocket in the urethral wall, below the neck of the bladder. In cystocele the urethra is not involved in the prolapse, except in the worst cases, when the whole urethra and posterior bladder wall with the anterior vaginal wall protrude between the labia.

A cyst of the anterior vaginal wall may be mistaken for a cystocele. I have seen three such cases, in one of which I excised the cyst; in the second the patient had been treated with a pessary for cystocele by a physician who sent her to me at the Polyclinic where I easily detected the error, and demonstrated it by showing that the sound did not go to the bottom of the supposed cystocele; and the third case is a woman with a large intraligamentous ovarian

Fig. 2.



Sectional view of suburethral abscess, showing narrow opening into urethra. *A*, Abscess. *B*, Bladder. *S*, Symphysis.

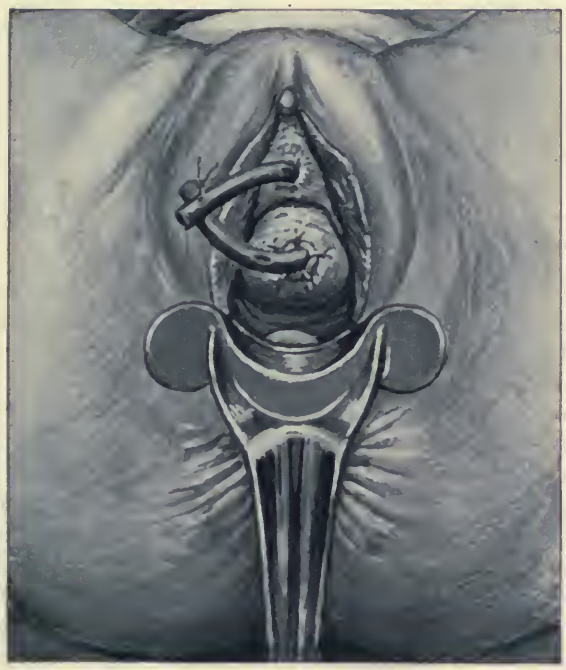
cyst who refuses operation for the vaginal cyst as she says she has had it for thirty years and it does not trouble her.

The diagnosis of a *gonorrhea of the vagina, endometrium or endosalpinx* cannot be made by the eye nor the nose, for there is nothing distinctive about the appearance or odor of the discharge, nor the color of the vagina. The discharge is simply green, thin, irritating and pungent, like the secretion in an aggravated case of non-contagious endometritis and vaginitis. Only the discovery of the gonococcus would settle the diagnosis of gonorrhea, which the habits and associations of the woman might lead us to suspect. To accuse a respectable married woman of gonorrhea simply on the strength of an irritating, pungent, greenish, vaginal discharge, and an inflamed, eroded, "granular" (papillary) vaginitis, would be risky and likely to evolve a suit for defamation of character, against which there would be no satisfactory defense.

The diagnosis of *cancer of the cervix* is usually so easy that any tyro can make it. But in the early stage before the destruction of the diseased tissue has taken place, when there is no offensive putrid discharge, or before the cervix has swollen to the size and outline of a turnip or a cauliflower—when, in fact, the disease is in its infancy and nothing but prolonged menstruation or an intermenstrual oozing attracts the woman's attention, it may not be easy

to decide whether the swollen, ragged, bleeding lips of the cervix are merely due to a puerperal laceration, or to malignant disease. As a rule, in a benign case the tissues are hard and bleed but little on touch, whereas if the ulceration is malignant the finger can easily break down and crush portions of the cervix, and the bleeding is profuse although easily arrested. Besides, any extension of the ulceration to the vagina or enlargement of the supravaginal portion of the cervix indicates probable malignancy. The microscope is often required to settle this question, but I must confess that I have usually been able to make up my mind from the clinical facts, and have found in the microscopic reports only a confirmation of my previously expressed opinion.

FIG. 3.



Suburethal abscess. Showing drainage-tube through meatus urinarius and incision in the vagino-urethral septum.

A putrid, offensive discharge is *never* found with a simple lacerated cervix; it means gangrene, perhaps a decomposed piece of decidua, or a sloughing fibroid, or a malignant growth. Hence, such discharge from the uterine cavity calls for the curette, and possibly the microscopical examination of the scrapings. If feasible, it is always advisable to dilate the uterine canal sufficiently to enable the index-finger to pass through the internal os whenever the uterus is enlarged and it is desired to be sure that its cavity has been entirely cleared of the foreign substances for which the curetting was done. Even the largest curette which can be passed through such a canal does not afford absolute assurance on this point, which can be given only by the finger. Hence, it is the finger upon which we must chiefly rely for the diagnosis of submucous fibroids and intra-uterine polypi; the sound is but a poor substitute.

Displacements of the uterus can generally be easily recognized by a finger experienced in detecting the normal position of that organ.

Bimanual palpation will distinguish an anteflexion or anteversion, or a retroflexion or retroversion from a fibroid in the anterior or posterior uterine wall, or from a tumor in Douglas' pouch. If necessary the sound will indicate the position of the body of the uterus. If there is a suspicion of pregnancy, however, the sound is forbidden, and then the diagnosis of the nature of the uterine enlargement may be difficult, or for a time impossible, and a second examination a month or so later may be required to decide whether the uterus has enlarged in accordance with the natural growth of pregnancy since the first examination.

It is particularly difficult to detect the true condition when a woman states that she has not skipped a recent menstrual period and has been bleeding more or less steadily for a month or two. The uterus is found enlarged, soft, outline perhaps slightly irregular, os not admitting finger; hemorrhage moderate. There is no suspicion of pregnancy. The diagnosis is submucous fibroid; the uterus is sounded, found to be four to five inches deep, the cervical canal is dilated, the uterine cavity explored, and a still unbroken amniotic sac or fragments of attached placenta are found; or the curette, introduced without digital exploration, removes portions of decidua. The diagnosis of incomplete abortion is then plain enough; but the situation is a trifle awkward if a diagnosis of fibroid has been made previously and imparted to the family. I have myself repeatedly been misled in this way, and still both fibroids and impending or progressing abortion, or incomplete abortion may co-exist. I have seen many such cases, in which it is well to remember that the disproportion of the size of the uterus from the admitted or suspected time of pregnancy may be due to intramural fibroids. Hydatidiform degeneration of the chorion should be remembered as another, perhaps somewhat less common, cause of protracted metrorrhagia with unusual size of the uterus which, in that case, is soft and flabby, not solid, as with fibroids.

While fibroids and unsuspected pregnancy may lead to an error of diagnosis, impaction of a retroverted pregnant uterus should never be overlooked if the examiner is ordinarily careful. Aside from the history, the soft, boggy, tender mass behind the cervix with which it is evidently continuous, the

absence of the uterine body above the pubis, the bearing-down or expulsive pains, should at least excite a suspicion as to the true nature of the case and induce the physician to attempt a reposition of the uterine body. Even a mistaken diagnosis, as proved by a failure of all the efforts at reposition, is preferable to a result such as I saw last autumn, when a woman was admitted to Mt. Sinai Hospital with a paralyzed, overflowing bladder full of putrid urine, and an impacted retroflexed uterus containing a decomposed ovum of three-months' growth. She stated that this condition of the bladder had existed for ten days. The woman was of course intensely septic. Emptying and constant irrigation of the bladder and uterus failed to remove the sepsis, and she died about four weeks later of septic pneumonia. She had been under the care of a physician whose name was not ascertained or asked.

I admit that an *impacted or adherent ovarian cyst in Douglas' pouch* might, under conditions of doubtful pregnancy, render a differentiation between it and an impacted gravid uterus difficult, but the ovarian cyst could hardly cause pain or be tender, and would not grow rapidly, and usually the uterus can be felt above the pubis. A retro-uterine hematocele, with the history of pregnancy (the hematocele being the result of a ruptured ectopic tube) might also be confusing, but again the uterine body above the pubis would be useful, and the sound might with due care be employed. Once the question settled that the uterus is in its normal position, the nature of a retro-uterine intraperitoneal tumor rests between a subperitoneal uterine fibroid, an ovarian cyst, an exudate of plastic lymph, a distended Fallopian tube, a blood coagulum, and possibly but rarely an intestinal loop filled with fecal matter, a so-called coprostasis. I do not mean a distended rectum, where the fecal matter can be indented or the scybala separated by the examining finger, but a loop of ileum, or a fold of colon which has dropped into Douglas' pouch.

The diagnosis between pediculated fibroids of the uterus and solid or unusually firm multilocular or dermoid ovarian tumors, and between large ovarian polycysts and uterine fibro-cysts is often absolutely impossible, even to the most expert examiner, and errors are quite excusable. The length of the uterine cavity does not in my experience afford the valuable diagnostic evidence usually ascribed to it in distinguishing between uterine and ovarian tumors. In uterine fibroids the uterine cavity is generally supposed to be elongated; in non-uterine growths the uterus, too, maintains its normal depth of two and one-half inches. But I have repeatedly found the uterine cavity to measure but two and one-half to three inches in fibroids which grew away from the center of the organ, whereas in ovarian tumors with short pedicle or in intraligamentous ovarian or parovarian cysts the uterus was drawn out to double its natural length. Again, however, I have seen the uterus unaffected in the latter cases. There is, therefore, no invariable rule in such cases.

(To be continued.)

THE STATISTICS OF FIFTY AUTOPSIES ON TUBERCULOUS SUBJECTS.

By ALDRED SCOTT WARTHIN, M.D.,
of Ann Arbor, Michigan;
Instructor in Pathology in the University of Michigan.

The statistics of a well-observed group of cases of any pathologic condition must always possess some value, and this is true still of tuberculosis, a disease that probably has received more attention at the hands of statisticians than any other, syphilis alone possibly, being excepted. Though the number of my cases is small the autopsies have been conducted with extreme care, the teaching-ideal being always kept in view. The material obtained from the autopsies has been carefully worked up and it is because of the thoroughness with which the cases have been studied that this report may acquire a certain value.

The fifty cases include forty-one cases of chronic pulmonary tuberculosis, seven cases of acute miliary tuberculosis, one case of tuberculous meningitis, and one case of general tuberculous lymphadenitis. The diagnosis in all of the cases was based upon the presence of the tubercle bacillus. The most important point to be noted in this report is the distribution of the lesions in the cases of chronic pulmonary tuberculosis.

Lungs.—About three-fourths of the cases were in females and one-fourth in males. Two-thirds of the cases were well-advanced, one-third being in early stages, death occurring from other complications. In all of the cases the chief lesions were in the upper lobes, the lower lobes being either normal or showing little disease. In no case were the lesions confined to one side; in two-thirds of the cases the disease was equally advanced on both sides; in one-third there was a greater involvement on the left side. No case was of the fibroid type; all showed extensive caseation and cavities.

Pleura.—In all of the cases there was widespread thickening of the pleura with numerous adhesions. In the majority of cases the pleuræ over the diseased lobes were adherent throughout. Only very rarely was there any fluid exudate found. In one case caseating tubercles were found on the surface of the pleuræ and between the adherent surfaces.

Bronchial Glands.—In all of the forty-one cases there was extensive enlargement and caseation of the peribronchial lymph-glands.

Meninges.—Small scattered tubercles were found in the meninges in ten cases. The dura and pia were thickened and the subarachnoidal fluid was increased. There was no fibrinous exudate in any case.

Brain.—In three cases large solitary tubercles were found; in the cerebral cortex in two cases, in the ventricles and cerebellum in one case. Those in the lateral ventricles were attached by pedicles to the choroid plexus. All of these tubercles found in the brain presented on section a firm homogeneous surface having a distinct greenish color.

Nose.—In one case only were tuberculous lesions found in the nose. There was a widespread ulceration and caseation of the nasal mucosa involving the septum and lower turbinated bones. The base of the ulcer consisted of a tuberculous induration.

Tongue.—Tuberculous ulcers were found on the posterior surface of the dorsum in one case only.

Tonsils.—Caseating tubercles of small size were found in the tonsils in two cases.

Larynx.—In every case careful search revealed tuberculous lesions in the larynx. In many instances these were minute ulcers or erosions having a slightly indurated base, while in other cases there were large irregular ulcerations. Small nodular tubercles were found in some cases. The chief seat of the lesions was upon the arytenoids and the disease usually showed signs of progression upward rather than downward. In a number of cases it extended into the pharynx and in two cases the epiglottis was almost completely destroyed. In one case the process extended through the wall of the larynx and esophagus into the latter. The true vocal cords were affected in ten cases, the lesions consisting of miliary nodules situated on the upper and inner surface of the cords.

Trachea.—Numerous miliary tubercles were found in the mucosa in one case; in three others small tuberculous ulcers were present.

Cervical Glands.—Tuberculous in one case only of the forty-one.

Heart.—One case of tuberculous pericarditis was found, there being complete adhesion of the pericardial layers with multiple tuberculous nodules scattered through the heart-wall. The organ was enormously enlarged, the enlargement being due to hypertrophy of the heart-muscle and to the thickening caused by the growth of tuberculous tissue which surrounded the entire heart in a layer one-eighth to three-quarters of an inch in thickness firmly uniting the pericardial surfaces. The pulmonary disease in this case was overshadowed by that of the heart.

Tuberculous Thrombus of the Heart.—A thrombus the size of a large pea was found on the mitral ring in one case. On microscopic examination it was found to consist of a base of epithelioid tissue containing numerous giant-cells and showing a beginning caseation. Fibrin and red blood-cells were also present in the mass. Tubercle bacilli were demonstrated in it. Thrombi were found on the valves in ten per cent. of all the cases but unfortunately no microscopic examination was made of the others. The frequency of occurrence is striking.

Liver.—In every case of pulmonary tuberculosis tubercles could be found in the liver. In the early stages of the disease they were usually small and scarce; occasionally a large encapsulated one could be found. In all of the chronic cases the liver tubercles were more numerous and in many cases the picture was that of an acute miliary tuberculosis of the liver.

Spleen.—The condition found in the spleen was always similar to that found in the liver of the same subject. In the early stages the tubercles were small and scarce while in the more chronic cases they were more numerous, and in many of the older subjects there was the picture of an acute miliary tuberculosis of the spleen.

Kidney.—The kidneys contained tubercles in all of the forty-one cases, but the tuberculous lesions in this organ were always more scarce than in the liver or spleen. In early stages of the pulmonary disease solitary tubercles were usually found; in the chronic cases they were more numerous, occasionally so abundant as to give an appearance of acute miliary tuberculosis of the kidney. The metastasis in the kidneys, however, was never so marked as in the liver and spleen. In two cases the dilated pelvis contained tuberculous ulcers, and in one of these cases there was also tuberculosis of the ure er.

Adrenals.—In one case the right adrenal was found to contain large caseating tubercles. No signs of Addison's cachexia were present.

Bladder.—In one case where there were extensive lesions in the kidneys the mucosa of the bladder contained numerous miliary tubercles.

Male Genitals.—The testes, seminal vesicles, and prostate were tuberculous in one case only.

Female Genitals.—The Fallopian tubes and uterus showed extensive tuberculous lesions in three cases. There was caseation of the entire endometrium in each case, the cavity of the uterus being filled with a soft, yellowish, cheesy mass. In one of the cases isolated tubercles were also found scattered throughout the uterine wall. In one case the vaginal portion of the cervix and the mucosa of the vagina were covered with tuberculous ulcers.

Stomach.—Tuberculous ulceration was found in the mucosa of the stomach in one case.

Duodenum.—In two cases very large tuberculous ulcers were found in the mucosa of the duodenum.

Small Intestine.—In thirty-nine of the forty-one cases tuberculous ulcers were found in the mucous membrane of the small intestine. In one-third of these cases the lesions were small and situated chiefly in the lower portion of the ileum and around the ileocecal opening. When few ulcers were present they were invariably found at the latter location. In many cases the ulcers occupied the site of Peyer's patches, and were situated at regular intervals. Few ring-shaped ulcers were seen; in the majority of cases the long axis of the ulcer coincided with that of the intestine. No perforation was seen though in many cases the ulcers seemed just on the point of breaking through the serosa. Adhesions or thickenings of the serosa over the ulcers were rarely found.

Large Intestine.—Contained tuberculous ulcers in seven of the cases. In one case a tuberculous fistula was found in the rectum.

Appendix.—Tuberculosis of the appendix was found in two cases. In one large caseating tubercles were found in the extremity of the appendix. They appeared to be about to break through the serosa. Tuberculosis of the peritoneum and genital tract was present in this subject. In the other case the lumen of the appendix was obliterated by a firm tuberculous growth, no caseation being present. Peritoneal tuberculosis was present in this subject also.

Peritoneum.—Tuberculosis of the peritoneum was present in four cases—in two in association with tuberculosis of the Fallopian tubes and uterus, in one with tuberculous appendicitis and tuberculosis of the tubes and uterus, and in one with tuberculous appendicitis alone.

Mesenteric Glands.—These were tuberculous in every case in which there was tuberculosis of the small intestine.

Retroperitoneal Glands.—These were tuberculous in three cases.

Bones.—The vertebræ were tuberculous in two cases; in one the fourth and fifth lumbar, in the other the third and fourth dorsal were diseased. Tuberculosis of the pelvic bones, clavicle, and hip-joint was present in three cases. In the case in which there was tuberculosis of the clavicle several of the ribs were also diseased.

Mamma.—Tuberculosis of the mamma was present in one case, a large "cold abscess" being present in the left breast.

Skin.—In the case of tuberculosis of the mamma there were multiple tuberculous abscesses in the subcutaneous tissue of the abdomen, thorax, and neck.

Summary.—The relative rate per cent. of the distribution of the tuberculous lesions in the different organs would be approximately as follows:

Lung	100 per cent.	Prostate	2 per cent.
Pleura	100 " "	Fallopian tubes	7 " "
Meninges	24 " "	Uterus	7 " "
Brain	7 " "	Vagina	2 " "
Nose	2 " "	Stomach	2 " "
Tongue	2 " "	Duodenum	4 " "
Tonsils	4 " "	Small intestine	95 " "
Larynx	100 " "	Large intestine	17 " "
Cervical glands	2 " "	Rectum	2 " "
Heart	7 " "	Appendix	4 " "
Bronchial glands	100 " "	Peritoneum	9 " "
Liver	100 " "	Mesenteric glands	95 " "
Spleen	100 " "	Retroperitoneal Glands	4 " "
Kidneys	100 " "	Bones	9 " "
Adrenals	2 " "	Mamma	2 " "
Bladder	2 " "	Skin	2 " "
Testis	2 " "		
Seminal vesicles	2 " "		

Other pathologic conditions found in association with chronic pulmonary tuberculosis were:

Fatty infiltration of the liver in	100 per cent.	of the cases.
Fatty infiltration of the heart	90 "	"	"	"
Cloudy swelling of the renal epithelium	80 "	"	"	"
Chronic congestion of the spleen	80 "	"	"	"
Amyloid spleen	20 "	"	"	"
Amyloid kidney	15 "	"	"	"
Amyloid liver	4 "	"	"	"

It will be seen, therefore, that in these forty-one cases of chronic tuberculosis of the lungs, in both the early and late stages, there was in every case extensive disease of the pleura, metastasis in the bronchial glands, liver, spleen, and kidneys, and secondary infection of the larynx, and in thirty-nine of the cases secondary infection of the small intestine and mesenteric glands. Though the number of the autopsies is small, and though it is possible that my cases may constitute a unique set, I cannot avoid believing that metastasis and secondary infection in chronic pulmonary tuberculosis play a much more important part than is usually believed, and that in practice the secondary lesions do not receive the attention which they deserve.

How much attention does the average practitioner give to the larynx in cases of chronic tuberculosis? Very little, I believe. Osler speaks of this neglect of the laryngeal complications and I am of the opinion that much might be added to the comfort of the tuberculous patient if more care were bestowed on the larynx. Means may be attempted to prevent infection of the upper air passages by instructing the patient to expectorate as soon as the sputum rises into the larynx. Many patients, in order to avoid expectoration, allow the sputum to accumulate in the larynx until forced to cough. Some attempt at local cleanliness or antisepsis might be of avail. The danger of secondary infection of the intestinal tract might be lessened if the dangers of swallowing sputum were more strongly emphasized.

The case of tuberculous meningitis and that of tuberculous lymphadenitis presented no unusual

features. Of the seven cases of acute miliary tuberculosis four were in males and three in females. The primary focus in each of the four cases in males was in the left seminal vesicle, the dissemination occurring through the veins in the tissue about the vesicles. Tubercles were found extending through the wall into the lumen of the vein. Two of these subjects showed signs of general infection almost immediately after the removal of the left testis, which was also tuberculous. In these two cases dissemination may have occurred through the spermatic veins also, though no evidence of this could be found. The primary focus in the other three cases was in a caseating mesenteric gland, the dissemination occurring through the thoracic duct.

The chief point of interest in these cases of acute miliary tuberculosis is the frequency with which the primary focus was found in the left seminal vesicle. In the majority of the articles in text-books on acute miliary tuberculosis the occurrence of the primary focus in the seminal vesicles is not mentioned.

EXPERIENCE WITH LITTEN'S DIAPHRAGM-PHENOMENON IN 220 CASES.

By RICHARD C. CABOT, M.D.,

OF BOSTON, MASS.;
PHYSICIAN TO THE OUT-PATIENT DEPARTMENT OF THE MASSACHUSETTS GENERAL HOSPITAL.

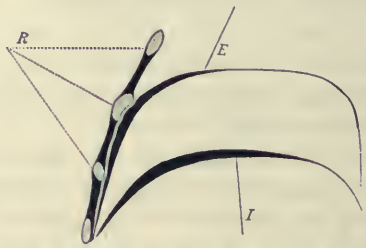
In 1892[1] Litten made this observation: If a person lies with the feet pointing straight toward a window (cross lights being excluded) and the chest exposed, the following phenomenon can be observed during forced respiration: Along both axillæ a sort of shadow is seen to descend during deep inspiration from about the seventh to about the ninth rib, passing up again during expiration. It is best seen in spare, muscular, young persons of either sex. The observer should stand with his back to the light.

There can be no doubt that this phenomenon can be seen in all healthy people except those who are very fat, and those who cannot or will not breathe deeply. The latter condition occurs in hysteria and in some very stupid people who cannot seem to sufficiently understand what is meant by a full breath and to take one. Litten has observed many thousand cases and never failed to see the diaphragm-shadow in healthy subjects except under the conditions just mentioned.

The phenomenon is nearly or entirely absent in the following conditions: (1) Fluid or air in the pleural cavity. (2) Obliteration of the pleural cavity by adhesions. (3) Advanced emphysema of the lungs. (4) Pneumonias of the lower lobe. (5) Intrathoracic tumors low down in the chest. Subdiaphragmatic tumors or fluid accumulations do not impair the phenomenon unless they are of very great bulk. In a case of tumor of the liver weighing thirty-six pounds, and occasionally in very large collections of ascitic fluid, Litten has found the phenomenon absent. Paralysis of a phrenic nerve is also mentioned as a possible cause for absence of the diaphragm-shadow.

The process by which the phenomenon occurs is best understood by imagining a coronal section of the thorax as seen from the front. At the end of expiration a portion of the diaphragm lies flat against the inside of the thorax. During inspiration it "peels off" and allows the lower edge of the lung to come down into the chink between the diaphragm and thorax (see Fig. 1). This peeling off of the

FIG. 1.



Excursion of the diaphragm during forced respiration. *R.* Ribs. *E.* Position of diaphragm at end of expiration. *I.* Position of diaphragm at end of inspiration.

diaphragm from the inside of the thorax is most easily seen in the axillæ but can be made out all round the chest from spine to sternum. It corresponds with the entrance of the "complementary air" during forced inspiration. In quiet breathing it is rarely to be seen. The shadow travels on an average from 2½ to 3 inches, according to Litten, or from about the seventh to about the ninth rib in the axilla. He observes no difference in the distinctness of the shadow on the two sides of the chest though Swenson,[1] Martius,[2] and others have thought it more marked on the right. Similar shadows produced on the abdomen by the descent of the stomach, liver or colon were mentioned by Litten as occasionally visible and attention has recently been called to them anew by Pickler[3]. Martius points out that the shadow begins to move not with the beginning of inspiration but a little later.

The importance of the phenomenon in clinical medicine is due to the following facts: It gives us an easy and accurate measure of the volume or vital capacity of the lungs, enabling us to dispense with the use of the spirometer and of measurements of chest expansion. When the diaphragm-shadow

[1] *Deut. Med. Woch.*, p. 273, 1892.

[1] Swenson, "Tran. d. Ie. Soc. d. Med. d. Kiew," vol. ii., 1896.
[2] Martius, *Wien. Klin. Woch.*, p. 416, 1895.
[3] Pickler, *Centralblatt für Inn. Med.*, September 10, 1898.

moves less than 2½ inches during forced breathing, Litten considers the condition abnormal. Such abnormality may be due to general debility, in which case the shadow begins in the normal place (seventh space mid-axillary line) but descends less than 2½ inches. In emphysema the excursion is likewise diminished, but in this disease the shadow begins further down than is normal, owing to the fact that the distended lung prevents the diaphragm from folding back against the chest-wall as much as it usually does. In the later months of pregnancy the excursion is likewise limited by the upward pressure of the pregnant uterus.

So far we have been considing *bilateral* abnormalities in the excursion of the diaphragm. We have mentioned earlier the fact that the presence of abnormal solids, fluids or gases in a pleural cavity abolishes the shadow on that side and this is sometimes of aid in the diagnosis of these conditions. The gradual expansion of a tied-up lung after pleuritic effusions or the contraction of an emphysematous lung as it improves can also be watched by means of the diaphragm-shadow. Litten has also insisted on the importance of the diaphragm-shadow in distinguishing subphrenic abscess from empyema and abdominal from thoracic tumors. Anything *below* the diaphragm except as has been stated, does not abolish the shadow. Bull [1] has not found this distinction to hold good with sufficient constancy to make it of practical diagnostic value. He also dissents from Litten's statement that the shadow can be seen in all healthy people, and states that he has repeatedly found it absent on one or both sides, and frequently restricted to an excursion of one-half an inch or an inch. He finds it less distinct in women and most distinct in children. Rumpf [2] looked for the shadow in seventy cases of phthisis at Davos and found it absent on the affected side in sixty-four of them. The remaining six were incipient cases. The shadow is not visible after the disease has extended down to the second rib in front and to the middle of the scapula behind. He does not consider it of much diagnostic value in phthisis.

Personal Experience.—With the assistance of Mr. Tileston and Mr. Osgood of the Harvard Medical School I made observations on 220 cases at the Out-Patient Department of the Massachusetts General Hospital during the summer of 1898. Our examining-room has but one window and the examining-table was kept always with its foot pointing to the window so that every patient who lay on it was in the best position for examination. The upper and lower limit of the diaphragm excursion was marked in every case with a skin pencil and the intervening distance measured and recorded at once.

These observations confirmed, so far as they went, the results obtained by Litten. In normal cases (102 tested) the excursion was from 5 to 9 centimeters (2 to 3⅜ inches), depending more or less on how hard the patient was made to work over it. It did not seem best to make every patient breathe as deeply as he possibly could as there was some strain and fatigue connected with it. By "normal cases" is here meant those having no evidence of any disease in the chest which could be expected to retard the diaphragmatic movements. Under this heading I include such conditions as syphilis, typhoid, gonorrhea, malaria, leucemia, gastric cancer, adenoids, bronchitis, alcoholism, etc. In these 102 cases the shadow moved practically the same distance on the two sides of the chest, averaging 6 centimeters (2⅓ inches) on the right and 5.9 centimeters on the left. In 50 cases the excursion was slightly greater on the right and in 32 cases greater on the left; in 30 cases it was equal. Slight differences of this kind may be accounted for by fatigue in case the right side is examined first.

Pleuritic Effusion.—In eleven cases of pleural effusion (two of them purulent) the shadow was entirely absent on the affected side and normal on the other.

Pleuritic Adhesions and Dry Pleurisy.—In three cases of acute dry pleurisy with pain and a friction rub and in five cases with a history and signs of old pleurisy with adhesions the shadow was absent or nearly so on the affected side and normal on the healthy side.

Emphysema.—Six cases of chronic bronchitis with emphysema and wheezing were examined. Two of these showed no shadow on either side, two showed none on the left and but slight on the right, and in the remaining two cases the excursion was limited though not altogether wanting on either side.

Phthisis.—Thirty cases of pulmonary tuberculosis with bacilli in the sputum were examined. In only one were the diaphragm's movements normal. The average excursion on the affected side was 2 centimeters (¾ of an inch) in moderately advanced cases and 4.3 centimeters (1⅝ inches) in incipient cases, or an average of 2.1 centimeters ($\frac{7}{10}$ of an inch) in the whole series. Contrary to the results of Rumpf, even in very early cases, in which a few râles at one apex were the only physical signs, we found often distinct limitation of the diaphragmatic movements on the affected side. F. H. Williams has repeatedly called attention to the importance of the evidence given by a restriction of the movements of the diaphragm as seen by the Röntgen-rays. Our results

[1] Bull, *Norsk. Mag. f. Lageviде*, No. x, 1896.
[2] Rumpf, *Berlin Klin. Woch.*, No. vi, 1897.

would seem to confirm this, and I desire especially to insist upon the fact that the diaphragm-shadow gives us a way of observing the diaphragmatic movements much more easily and cheaply than with the X-rays. Not every case of incipient phthisis showed any decrease in the Litten phenomenon, but in a majority of cases it was decreased and served to urge us to more careful study of the case.

In connection with this series of cases it was notable that not infrequently the shadow could only be brought out by making the patient *cough*. Here the attention not being fixed directly on the act of respiration the latter was better performed. The decrease or absence of the shadow in phthisis is probably due to the presence of pleuritic adhesions limiting the movements of the lung.

Cardiac Hypertrophy.—In three cases of valvular disease with marked enlargement of the heart to the left and downward the records show: (1) Mitral stenosis, right 3.5 centimeters (1¼ inches), left 0; apex in seventh space. (2) Mitral stenosis and aortic disease, right 0, left 0; marked ascites and enlarged liver. (3) Mitral regurgitation, left 2.7 centimeters (⅞ of an inch). Whether the cardiac enlargement is really the cause of the limited action of the diaphragm in these cases I do not know. The cases are too few to warrant any conclusions and I record them for what they are worth. The rapid, shallow breathing in cases with ruptured compensation is not suited to bring out the shadow.

Debility and Muscular Weakness.—As the diaphragm phenomenon is due to muscular effort any condition involving muscular weakness or strong disinclination to exertion limits it markedly. This was exemplified in our series in a case of Addison's disease and in cases of debility and neurasthenia.

Obesity.—Our observations simply confirm those of others, that in the very fat, the shadow cannot as a rule be seen.

Subdiaphragmatic Tumors and Ascites.—In a case of cirrhosis of the liver in which the organ was palpable over a space a hand's breadth in width below the ribs and to the fifth rib above the shadow could still be seen to move an inch or more with respiration. Similar appearances were noted in a case of leucemia with great enlargement of the spleen. On the other hand, a very large collection of ascitic fluid in a case of uncompensated valvular disease made it impossible to detect any diaphragm-shadow.

Summary.—1. In 102 normal chests the diaphragm-shadow showed an average excursion of 2⅓ inches on each side of the chest.

2. In 11 cases of pleuritic effusion, 5 cases of adherent pleura and 3 cases of acute dry pleurisy, the shadow was absent on the affected side.

3. In 6 cases of emphysema the shadow was either absent or nearly absent.

4. In 30 cases of phthisis the excursion of the diaphragm was diminished on the affected side (except in one case); even incipient cases may show this change.

5. Muscular weakness may greatly limit the excursion of the shadow. In obesity it is often missed. It may be obtained only during a fit of coughing.

6. Great enlargement of the liver or spleen may exist without abolishing the shadow, but a very large accumulation of ascitic fluid may render it invisible.

7.—The diaphragm-shadow seems to render unnecessary the use of the X-rays in the investigation of diaphragmatic movements.

FOREIGN BODIES IN THE LARYNX.[1]

BY CHARLES H. KNIGHT, M.D.,
OF NEW YORK.

ONE of the most interesting conditions likely to confront us general practitioners, as well as specialists, is that resulting from inspiration of a foreign body. The seriousness of the accident depends upon the shape and size of the object and upon its point of lodgment in the upper air-passages. A very large body, such as a bolus of food or a piece of meat, may fill the cavity of the larynx and cause fatal asphyxia. An irregular or sharp-pointed body like a fish-bone, a pin, or a piece of glass, may be detained in the larynx without interfering very much with the air-current. On the other hand, an object of moderate size with a smooth surface—a glass bead, a bean, a cork—is in danger of slipping through the glottis into a bronchus, where it may be a source of serious mischief. The variety of articles which have gained admission to the upper air-passages at various times is remarkable. Tooth-plates, puff-darts, a toy locomotive, a toy balloon, cockleburrs, coins, and pins of all kinds are found in the catalogue. In fact, almost no object that can be put in the mouth has escaped being inhaled into the air-passages. Children especially have a propensity for stuffing things into their various cavities, and when the mouth has been the situation chosen a deep inspiration preceding the act of laughing or of coughing is apt to carry the foreign body beyond reach.

The first symptoms of a foreign body in the larynx are violent paroxysms of cough, Nature's effort to expel the intruder, and suffocative attacks due to spasm of the larynx and not depending upon the size of the object. The subsequent course of events is very much influenced by the last-mentioned fac-

[1] Read at a meeting of the Northwestern Medical and Surgical Society of New York, February 15, 1899. For discussion, see page 476.

tor. The voice may be abolished, or the object may be so placed as not to interfere with the action of the vocal bands. It is surprising with how little objection the larynx will accommodate even a formidable foreign body. Several years ago I reported a case of tooth-plate in the larynx remarkable for its long retention and for the slight disturbance it caused. The plate fell into the larynx during a puerperal convulsion and was not discovered until a week later, when the patient complained merely of sore throat. A still more extraordinary case was reported a few years ago by Lennox Browne, in which a plate of artificial teeth was impacted in the larynx for twenty-two months without the condition being recognized. Dr. S. W. Langmaid of Boston once removed from the larynx a large pin, such as is used for securing packages of bank-notes, two years after it had been swallowed. Hoarseness was the only subjective symptom after the first disturbance.

One of the most remarkable cases on record as regards duration may be mentioned although beyond the scope of this paper. It is one recently reported by J. L. Bunch and R. Lake. The foreign body, a piece of mutton-bone, passed through the larynx into a bronchus where it rested eight years. It then became shifted to the trachea where it caused more or less dyspnea and certain laryngeal symptoms, and the case was exhibited as one of tracheal stenosis from syphilis. In the course of the succeeding year the bone was discovered and removed through a tracheotomy wound. Recent literature is not very rich in cases of this kind but a few may be referred to briefly. In three of six cases reported by Koch of Luxembourg the foreign body was a meat-bone, in but one instance the bone being arrested in the larynx. In a fourth case the point of a pin had penetrated the larynx from the pharynx. The diagnosis was made by digital exploration and not with the mirror. Two other cases were those of children who inhaled in each instance a bean. In one the foreign body was known to be in a bronchus, where it induced a fatal pleuropneumonia. In the other the bean seems to have passed beyond the larynx, since it was coughed up through a tracheotomy wound, and the child recovered. N. Palazzolo reports having removed with laryngeal forceps a leech which had been fastened in the ventricle of a larynx for ten days. He refers to the frequent occurrence of this accident in the island of Sicily, thirteen similar ones having been observed there. J. Walker Downie reports a case in which a pin was localized in the larynx by means of the Röntgen-ray, its position being accurately defined by a transverse as well as an anteroposterior photograph. An interesting feature of this case is that ten days after the operation pricking and heat over the back of the head and neck were complained of, followed by vesication and sloughing of the skin and loss of hair over a large area.

Kronenberg also reports a case of foreign body discovered with the Röntgen-ray. It proved to be "the hook of a cravat" and was removed by tracheotomy. The symptoms had been attributed to false croup. Lanffs reports a case of eggshell embedded in the larynx and removed with forceps. Delsaux gives the history of case in which he removed a triangular splinter of bone from the subglottic space with forceps. The bone had been *in situ* for six months, one end being just under the anterior commissure and the other beneath the left arytenoid. A case reported by E. Fletcher Ingals in September, 1898, is in several respects a duplicate of one presented by myself at the meeting of the British Medical Association in Montreal in 1897. The foreign body, as in my case, was a metallic shoe-hook or fastener which had been in the larynx five weeks at the time of its removal by laryngotracheotomy. A fruitless attempt was made to examine the larynx with the aid of a vaginal retractor about four inches long. The hook could be felt behind the epiglottis but could not be seen with the laryngoscope on account of the profuse secretion and the intolerance of the patient.

My own case, of which I will give a brief abstract, is a noteworthy tribute to the value of expert use of the laryngoscope. The accident occurred about six weeks before the boy was brought to New York. After a violent fit of coughing and dyspnea there were no special symptoms and it was surmised that the shoe-hook had been swallowed. The voice was lost, however, and after a week spent in efforts to restore it by means of the electric current the laryngeal mirror discovered the foreign body impacted in the right ventricle of the larynx near the anterior commissure. An enlarged tonsil which interfered with manipulations was excised. Many attempts were made to remove the hook both with and without an anesthetic but the patient was so unmanageable that it soon became evident that an external operation would be required. At the time he came under my observation he was completely aphonic and respiration, especially during sleep, was rather stridulous. After several unsuccessful efforts at extraction through the mouth I performed a partial laryngofissure, after a tracheotomy, and met with no difficulty in removing the hook. Recovery was uneventful. At the end of a week, when the trachea tube was withdrawn, a pea-sized mass of granulation tissue was seen at the anterior commissure. No local treatment was permitted except a

sedative spray of menthol in albolene, and attempts to use the voice were positively forbidden. In the course of five or six weeks the patient was allowed to phonate and shortly he regained complete use of his voice.

Before opening the larynx in this case I made an attempt to see and extract the hook with Kirstein's misnamed "autoscope." Its purpose is to substitute direct inspection of the larynx for the ordinary laryngoscopic method. In some subjects a beautiful view of the glottis may be obtained. Others complain bitterly of the discomfort and actual pain produced by pressure of the spatula upon the base of the tongue. The original rather cumbersome apparatus has recently been modified by its promoter and it now consists practically of an elongated angular tongue-depressor. The end of the tongue-piece is slightly curved and is intended to embrace the median glosso-epiglottic ligament and drag forward the base of the tongue. Forced extension of the head so as to bring the long axis of the mouth in line with that of the trachea is essential. The position of the patient and the pressure of the instrument are, to say the least, uncomfortable, and it is not probable that this will supplant the older methods of examination. Max Thorner was more successful in dealing with a case by Kirstein's method. His patient was an adult with a very capacious and a very tolerant larynx who had a chicken-bone embedded in his right ventricle. It was removed with the utmost facility and without cocain. In such a subject the old way of manipulating would certainly have been equally efficacious.

An impacted body which permits respiration may be dealt with somewhat deliberately. A moveable body, or one that may be readily dislodged, is more dangerous because it is liable to shift its position so as to completely cut off the air-current. A sharp-pointed or angular body may lacerate the wall of the passage and cause emphysema of the cellular tissue, or it may penetrate a blood-vessel and induce hemorrhage.

As to diagnosis, the history and the subjective symptoms usually furnish ample testimony, but in every case the laryngeal mirror should be used to determine the situation of the object unless the patient's condition is precarious. Under the latter circumstances a rapid tracheotomy may be demanded for the relief of urgent symptoms.

The extraction of a foreign body from the larynx often calls for the exercise of great ingenuity and dexterity. For example, a pin lying in the larynx with its point directed upward must be seized and pushed down before it can be withdrawn without lacerating the soft parts. Again a rough irregular body must, if possible, be broken and removed piecemeal in order to avoid excessive damage to the tissues. In children the interior of the larynx may be reached with the finger, and our object may be accomplished under general anesthesia. In adults, all endolaryngeal manipulations have of late years been much facilitated by the introduction of cocain. The choice of an instrument to be used must be determined by the character and location of the foreign body. Mackenzie's laryngeal forceps, Cusco's forceps, one of the various tube-forceps, or the cold-wire snare may be selected according to circumstances. Finally, if an external operation becomes necessary I would remind you of the advantage of a *partial* section of the thyroid cartilage with a view to replacement of the vocal bands and preservation of function. When section of the thyroid has been complete it is not easy to secure perfect apposition of the halves of the larynx. The undivided upper margin of the cartilage, however, prevents shifting and in young subjects especially, in whom the parts are pliable and may be readily retracted, it does not interfere with a sufficiently free exposure of the interior of the larynx.

CLINICAL MEMORANDUM.

AN EXTRAORDINARY CASE OF RETAINED CONSCIOUSNESS DURING COMPLETE SURGICAL ANESTHESIA.

BY S. ORMOND GOLDAN, M.D.,
OF NEW YORK.

ON October 24, 1898, Dr. W. requested me to anesthetize a patient whose history was as follows: Age about thirty-four years; general condition good; respiratory and circulatory systems normal; pulse 120; urine analysis negative; had exophthalmic goiter; temperament sanguine; good intellectual development.

The narcosis was induced and maintained easily and with no untoward symptoms; operation consisted of the removal of a dead fetus (six months). The cervix being rigid and tightly closed it required deep anesthesia, which was evidenced by the absence of ciliary and conjunctival reflexes, complete muscular relaxation, slight stertor, and moderate dilatation of the pupils.

The duration of the narcosis was forty minutes, during which time the patient evinced no symptoms of sensation whatever. Her consciousness, however, was complete. She remembered everything which transpired during the operation, as for instance, the surgeon talking to the nurse; an instrument falling on the floor; a call up the speaking-tube and her husband answering; some one knocking at the door, etc. She subsequently said she endeavored by moving her finger to let me know she knew all that was occurring yet felt nothing. There were, however, no muscular movements of any kind. Respiration was deep, regular, and slightly stertorous.

It might be questioned whether the patient was completely anesthetized, but of this there is no doubt. In the first place chloroform was used. This is admittedly the anesthetic which can most easily produce complete narcosis. Secondly, it is well known that the anal reflex is one of the last to be abolished. This is also true of that of the cervix uteri, for if a patient is not completely anesthetized the instant the cervix is dilated the well-known extension of the leg upon the thigh occurs. This patient evinced absolutely no symptoms of sensation during the cervical dilatation or at any time during the narcosis.

The higher the state of intellectual development the longer auditory sensations and consciousness persist. This fact can often be made use of practically when anesthetizing a patient. It is not generally known that the effort of a patient to push the inhaler from the face and to struggle is partly voluntary. They are capable of understanding; if spoken to loudly and told to put down their hands, and assured they are safe they will do as told.

During anesthesia auditory sensations and consciousness keep pace with each other and often persist during the second degree of narcotism. Few patients, however, are subsequently able to remember having been spoken to and having acted in an intelligent manner. All the more extraordinary must it be when a patient retains consciousness and hearing during the third (surgical) degree of anesthesia, a consciousness of not imperfect remembrance of events, during the commencement of anesthesia but details of what transpired after the anesthesia was complete. This patient had been anesthetized previously with chloroform, during which time she remembered what occurred but she also had taken nitrous oxid gas and remembered nothing of what transpired while under the influence of that anesthetic. This is surprising, for if we would expect a patient to retain consciousness to any extent we would suppose this to occur with nitrous oxid and least of all with chloroform. The surgeon also told me the patient has an idiosyncrasy to morphin; she cannot take that drug because of the intense excitement engendered.

MEDICAL PROGRESS.

Increase of Cancer in Prussia.—Heimann (*Arch. f. klin. Chir.*, vol. 57, p. 961, vol. 58, p. 31) says that the number of cases of cancer in Prussia in the year 1877 was 2952, while in 1896 it had risen to 12,548. The latter figures are taken from recently published official statistics. In the order of frequency of their attack, the different organs involved were: uterus, stomach, breast, rectum esophagus, skin, liver, lips, lymph-glands. Between the twenty-fifth and thirtieth year there were no less than 336 cases of carcinoma. In these years the lesion was usually located in the stomach, or in the female genitals, on the face, or the extremities, or in the rectum.

Vesical Calculi Formed around Sequestra of Bone.—Heresco (*Centrabl. f. Chir.*, February 11, 1899) has collected reports of fifteen cases in which, following inflammation of some one of the pelvic bones, an osseous fragment found its way into the bladder, there to be incrusted with lime salts and afterward to be removed. In addition to these rare calculi, he mentions also two formed about silk threads which found their way into the bladder after operations for the removal of the adnexa and for the radical cure of hernia, respectively. In both of these instances a long period of suppuration preceded the deposit of the foreign body within the bladder.

THERAPEUTIC NOTES.

Formalin in the Treatment of Inoperable Cancer.—Mitchell (*Brit. Med. Jour.*, February 11, 1899) employed a solution of formalin containing twenty per cent. of formic aldehyde to stop the almost constant hemorrhage from a sarcoma of the cheek. The healthy skin was protected by painting it with a solution of caoutchouc. The solution of formalin was applied on a bit of absorbent cotton which was covered with gutta-percha tissue to prevent evaporation. The hemorrhage was stopped immediately and the tumor tissue was necrosed for a depth of about a quarter of an inch. The following day the necrosed portion was carefully cut away and the formalin was reapplied. This treatment was repeated daily until the tumor was entirely removed without the loss of a single drop of blood. Injections of the formalin solution with a hypodermic syringe produced an alarming swelling and gave no better result than the external application. There was no suppuration. This method of treatment is simple, produces no shock, and is absolutely bloodless. This formalin has a much more penetrative power than the usual escharotics. As the necrosed tissue is shaved away, an admirable view is presented of the extent of the new growth, and if desired, the excised portions can be examined microscopically, as they are already hardened.

Causes and Treatment of Pernicious Anemia.—Grawitz (*Rev. de Therap.*, February 15, 1899) says that one of the chief difficulties in the way of the successful treatment of pernicious anemia is the improper nourishment of the patient on account of his anorexia. It is necessary to wash out the stomach and bowel and to give saline laxatives to correct this. If the urine contains an increased amount of indican it is a sign that the intestines contain putrefactive material and internal antiseptics, such as calomel and salol, should be given. To correct the hyperacidity of the stomach bitters should be prescribed, or the wine of condurango, wine of pepsin, or porter. It is indispensable that the physician have an oversight of the fluids taken by the patient. Iron is useless. Arsenic is the only drug which has a direct beneficial action. Massage, exercise, and appropriate gymnastics may be of some benefit. Infusion is only indicated in women who have lost a great deal of blood in induced labor.

Treatment and Prophylaxis in Malaria.—THAYER (*Progressive Medicine*, March, vol. i, 1899) quotes Ziemann as highly recommending the intramuscular injection of quinin in malaria. The bimuriate of quinin 0.5 (grs. vii) to 2 grams (m. xxx) of water is the usual dose and is inserted into the glutei. In the proportion of 1 part of quinin to 4 of the fluid the injection is painless, and this method of giving quinin is recommended for its prompt action. During the past year euchinin, the ethyl carbonate of quinin, a new and tasteless product, has received attention. In some cases in which quinin has not stopped the fever euchinin was efficacious in accomplishing this result. The author holds that the favorable reports on the use of this drug in many quarters should justify its more general use. Certainly if intelligent use of the drug proves it to be as efficacious as quinin, the product which is free from unpleasant taste will possess a great advantage in treatment.

In regard to the use of quinin as a prophylactic the author quotes Koch's statement that quinin, 0.5 (gr. vii), taken every other day, was sufficient to ward off attacks of fever.

Treatment of Scarlet Fever and Scarlatinal Nephritis.—BLACKADER (*Progressive Medicine*, March, 1899, vol. i) is opposed to the indiscriminate use of diphtheria antitoxin in the treatment of the anginas of scarlet fever. This should be limited to those cases in which the Klebs-Löffler bacillus can be looked upon as the cause. Much, however, can be accomplished by careful disinfection of the pharynx and nasal passages with suitable solutions. Traube's method of injecting a three-per-cent. solution of carbolic acid into the tissues of the tonsils and soft palate should be practised as soon as enlargement and tenderness of the lymphatic glands of the neck give evidence of septic infection, and should be kept up until the temperature reaches normal. A daily injection of 1 cm. of the three-per-cent. solution is distributed by a number of punctures over the area involved. The pain produced is of short duration, and a marked improvement in the dysphagia is at once experienced, due to the anesthetic effect of the carbolic acid. It is claimed, also, that the fever is favorably influenced. Nephritis is not a contraindication for the employment of this treatment. It is stated that some cases have been benefited and the albuminuria has diminished under the treatment. The urine may show the color of carbolic-acid poisoning, but this rapidly disappears on discontinuing the injections.

In the treatment of scarlatinal nephritis the author endorses Detlefsen's plan which includes: Rest in bed, quick relief to the engorged kidneys by means of mild diaphoretics and purgatives; proper diet, and non-irritating diuretics. The use of baths is warmly recommended, and preference is given to a warm bath of 98° to 100° F. for fifteen to twenty minutes, once to three times daily. Cold compresses should be applied to the head while the patient is in the bath with subsequent warmth to the skin and rubbing. If these measures fail to produce a copious perspiration, hot drinks, or to a child of five years $\frac{1}{20}$ of a grain of pilocarpin or an infusion of 10 grains of jaborandi leaves may be given. When a bath cannot be used the child may be wrapped in sheets wrung out in hot water and packed in hot bottles. Between the baths flaxseed poultices are to be applied over the kidneys. On account of its richness in proteids an absolute milk-diet is not advised. Diluted milk is given and the diet supplemented by gruel, light fruits, and young vegetables. If the urine is deficient in amount diuretics are indicated. Vichy may be given and a lemonade made by dissolving a dram of bitartrate of potassium in a pint of boiling water and adding the juice of one lemon. Acetate of potassium from 3 to 5 grains every three hours is a safe and efficient diuretic. For uremia a free evacuation of the bowels is procured by jalop or senna, or by an enema of equal parts of water and vinegar. An ice-cap should be applied to the head. To maintain the heart's action, hypodermic injections of caffein or of tincture of digitalis or strophanthus should be given, especially in those cases where edema of the lungs is detected.

Effect of Quinin on Asthmatic Attacks.—VAN SWERINGEN (*Ind. Med. Jour.*, March, 1899) tried many remedies for an attack of bronchial asthma lasting two weeks, but at no time succeeded in getting more than two-hours' freedom from distress. Amyl nitrite gave the patient fifteen-minutes' ease; chloroform but little longer, after the inhalations stopped. Belladonna seemed to have lost its effect for good entirely. Morphin did better than anything else, and gave her longest relief, but was followed by so much nausea and vomiting that she refused to have it again. Iodids had been given regularly from the first. Then for the purpose of stimulating the inhibitory reflex center quinin and strychnin were tried. The effect was almost magical. The dose of the quinin was 7 grains, the extract of nux vomica was given in ¾-grain doses, and to this was added ¼ grain of the sulphate of codein. They were taken *pro re nata*. In the intervals the iodids were continued, and the patient had less asthma in the last year than in ten years previous.

Hemalbumin in Chlorosis and Anemia.—DR. GOLINER (*Deut. Med. Zeit.*) recommends hemalbumin for the relief of chlorosis, anemia, and gastric and intestinal catarrhs. An effective iron preparation, provided it contains nutrient material in a predigested condition, especially albuminates, whose absorption and assimilation requires no tax upon the digestive system, is the treatment *par excellence*. Such a preparation of iron is found in hemalbumin. It is a powder, readily soluble in hot water or alcohol, and contains all the salts and albumins present in the blood, *i.e.*, hemoglobin with hematin, serum albumin, and paraglobulin, in the form of albuminates. Therefore hemalbumin closely resembles fresh blood in its composition, the fibrin alone being absent. The iron effects of the hematin, together with the nutritive influence of the albuminates present in this preparation, when administered in appropriate cases, are promptly manifested. The dose of hemalbumin is 15 grains three times a day.

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PSYCHIC PHENOMENA DURING ANESTHESIA.

Many a patient on coming out from the influence of an anesthetic has certain peculiar experiences to relate. It has been the custom in the past to dismiss these phenomena lightly as mere phantasmagoria of intoxication unworthy of serious attention. As psychology has come more and more into prominence during recent years, however, the impression has gained ground that these seemingly unimportant phenomena of ether or chloroform intoxication may be of service in enabling the psychologist to get at the basis of what constitutes the conscious personality. It was the pathologic rather than the physiologic that first added markedly to our knowledge of the anatomy and special functions of the nervous system, and of the functional significance of its various parts, thus enabling the neurologist to raise the science out of the sphere of mere theory. It will not be too much to hope that pathologic psychology will be of corresponding service to the allied branch physiologic psychology which is at present attracting so much attention.

Among our clinical memoranda Dr. S. Ormond Goldan reports this week a case in which complete anesthesia, as far as pain is concerned, was accompanied by perfect consciousness, with knowledge and remembrance of the surroundings, and of the surgical manipulations that were performed. Such phenomena are of great importance in solving that mysterious problem in neurologic psychology, the existence of a dual personality, especially when accompanied by a distinct consciousness for each personalty, or at least a subliminal consciousness not subject to ordinary psychic laws.

These cases of persistent consciousness in the higher or mental sphere during complete anesthesia to pain are not so rare as might be thought from the infrequency with which they are reported. Most anesthetists of wide experience have had such cases. The phenomena are neglected because considered of no scientific value. The psychologic departments of several of our great universities, notably Columbia University here in New York, are interesting themselves in these subconscious phenomena of anesthesia, and medical men should not neglect the opportunity their frequent contact with anesthetized patients affords them to secure material for the interesting cognate science of physiologic psychology.

TREATMENT OF INOPERABLE CANCER.

An article by Mitchell published in the *British Medical Journal* and abstracted in this number of the Medical News calls attention anew to the undying hope in the breast of the surgeon that he may at last find some therapeutic resource which shall destroy a malignant growth, while leaving uninjured the healthy tissues surrounding it. This surgeon used a strong solution of formalin with apparent success upon a sarcoma of the face which had grown far past any attempt at its removal by the knife. The application of formalin was made, not with a view to the cure of the disease, but simply to stop the hemorrhage which was slowly sapping the patient's strength. When the patient returned for a change of dressing the following day, Mitchell was pleased to find that the bleeding points had been thoroughly hardened, and that the characteristic necrosis caused by formalin had extended a quarter-inch into the tissues of the growth. Accepting the suggestion there offered to him, he sliced away most of the tissues so changed, and repeated the application. From day to day he was able to cut the

tumor off bit by bit, without the loss of a drop of blood, until the whole growth had been removed.

It is scarce worth the while to herald this as a discovered cure for inoperable cancer. Too often already have the hopes of the medical fraternity been raised by the reported cures of malignant growths by the latest product of chemistry of the coal-tar products, or by some better known chemical substance, or by some physiological toxin. Chelidoin and erysipelas toxins and protonuclein and carbid of calcium, like the older remedies alcohol and arsenic, have not proved themselves to be the long hoped for cure.

The parasitic theory of the origin of malignant disease is not accepted by the most competent pathologists, and for the present, at least, we must continue to look upon a cancer as "bone of our bone and flesh of our flesh," and while this view prevails, it must be admitted that the hope for a substance which will separate the malignant growth from the rest of the body without injury to what remains, is based on a very slight foundation.

THE THERAPEUSIS OF SUGGESTION IN CHILDREN.

THE modern physician has come to realize very clearly how potent an influence for good suggestion is in the treatment of patients. No matter how material the ailment, no matter how dependent upon gross morbid lesions, mental influence has a wonderful effect upon the course of disease, or at least upon the prominence of symptoms. Whether consciously or unconsciously we are constantly using suggestion in practice. Non-medical minds have come to realize this very fully, and have crystallized their convictions in the matter in such expressions as "there is no use having a doctor unless you have confidence in him," or "the medicine will not do you any good unless you believe in it." The expressions are not without exaggeration, but they have underlying them a certain basis of truth.

Our little patients, the children, have not come to realize yet all the magic influence for health there is in the visit of the doctor. They do not brighten up to tell of their symptoms during the last twenty-four hours, nor wait for the doctor's examination to assure them that the disease is progressing favorably, and so be encouraged to take up courageously once more the battle for health. In many instances children associate the visit of the doctor with unpleasant disturbance of their peace, with discomforting examinations, perhaps with painful investigation of their illness and its causes. They do not welcome his coming; on the contrary, are only too glad to see him go, careless whether he should ever come again, hopeful that he will not.

This is, of course, an unfortunate state of affairs, and one that cannot be entirely ameliorated in every case. Much can be done, however, to remove some of the objectionable features of the doctor's visit. It is more or less necessarily attended with discomfort and inconvenience for the little sufferer, yet it may be so conducted as not to make the child utterly misconceive its purpose. The stories of even wild animals submitting to additional pain when already suffering a good deal, because somehow they had gained the impression that what was being done was for their good, are not entirely without foundation. Certain individuals possess what, for want of a better word, may be called a magnetic influence in such matters that makes their beneficent purpose clear even to the animal.

Very young children also can be made to understand, if properly approached, that the doctor's bothersome visit is for their good. Certain it is that even when scarcely more than a year old they can learn to resent the doctor's meddling, and recognize his presence or even his title by fretfulness.

To win a child's confidence requires above all simple straightforwardness. If an examination is to cause pain the child should not be tempted to submit to it by the assurance that "it will not hurt," for the delusion serves but once and inevitably leads to loss of confidence. Frank explanation that it will hurt but not much, and then sincere efforts to keep this pledge are much better, though for the moment the child may be rendered unfriendly by the pain. If the confidence is gained and retained then the influence of suggestion may be used quite as powerfully as in the case of older people. The child's attention may be directed to its prospective cure, and to the expected good influence of the medicine and other remedial measures. Remedies that are not easy to take and other therapeutic measures that are a source of considerable discom-

fort will be more readily yielded to if the cooperation of the little patient is thus secured.

It takes time, we know, to establish such relations between the strange doctor and his timorous little patient. It cannot be done in the moment or two that is sometimes given for casual examination by the hurrying medical man. The influence for good is in most cases, however, so potent that it seems worth the while. The ability to establish such confidential relations with children is the best earnest of success in the specialty of children's diseases.

As for the direct influence of suggestion in many children's ailments it is not appreciated to a degree corresponding to its true worth. We know of a mother who has by direct suggestion influenced asthmatic attacks in a young child so as to greatly decrease their number and severity. We know of another who has been able several times with a boy of four to influence the course of attacks of laryngospasm, and to practically prevent the feeling of exhaustion that follows them by carefully directed suggestion as to regular breathing. Once the boy's attention was called to the fact that he could breathe easier if he did it quietly, and then the suggestion that he was nervous, not sick, an absolute truth in the matter, made the after-effects much less marked. This whole subject of suggestion as a therap utic agent in children's diseases is too large to handle fully in the limited space of an editorial, but we think we have said enough to show how important and hopeful a feature of pediatric therapeusis it should be.

PET ANIMALS AS CAUSES OF DISEASE.

As the result of the announcement that an Englishman had found that more than ten per cent. of the canaries and other song-birds that die in captivity succumb to tuberculosis, there has been considerable attention given in the daily newspapers to the possibility of human infection from that source. Parrots have come in for a share of condemnation in this connection, and gradually the danger of infection from other pet animals has been drawn into the discussion. A correspondent of the *New York Times* states, what is well known of course, that by far the larger number of monkeys that die in captivity are carried off by tuberculosis, and that the visiting of children to monkey-houses, and especially the keeping of monkeys as house pets (a custom that seems to be spreading) must be sources of serious danger.

We are not of those who like to set up scares of contagion at every possible opportunity, but the fact should be ever kept in mind that the presence of pet animals in a home is always associated with a certain amount of danger. Papers presented last summer at the French Congress for Tuberculosis in Paris demonstrate to our minds, what has been hitherto very doubtful, that aviary and human tuberculosis are essentially the same pathologic process, due to the same germ, modified by cultural environment, but convertible under favorable circumstances, one into the other.

We recall what Nocard, the greatest living authority on tuberculosis in animals, and the man to whom we owe the best culture methods for the tubercle bacillus, found in a series of autopsies on dogs. These animals had previously been considered as very refractory to tuberculosis, so much so that for a time their blood-serum was used as a curative remedy for the disease in human beings. The great student of comparative tuberculosis demonstrated in some 200 successive autopsies on unselected dogs that died at the great veterinary school at Alfort, near Paris, that in more than one-half of the animals there were tubercular lesions, and in many of these the lesions were of such a character as to make them facile and plenteous disseminators of infective tuberculous material.

The recent discussion on rabies at the New York Academy of Medicine, an account of which appeared in a recent issue of the Medical News, shows that whatever may be said as to its rarity that dread disease actually exists in this country. Cases of rabies from various parts of the country that have recently been reported in our columns show that there must be scattered foci of the disease in widely separated districts. As the disease is liable to affect any animal this constitutes not a serious or widespread, but an ever-to-be-remembered danger which is, moreover, practically dependent on pet animals.

Parrots are known to be peculiarly susceptible to a disease so peculiar to themselves that it is called from the Greek word for parrot, ψίτταχος, psittacosis. A number of fatal cases in human beings of

what was at first supposed to be a malignant influenzal pneumonia were in Paris traced to the bacillus at present thought to be causative of the parrot disease. A certain proportion of parrots are known to die from tuberculosis. Cats are known to sometimes have tuberculosis, and that they have in many cases been carriers of diphtheria and other of the ordinary infections directly and indirectly is more than suspected.

These would seem to be the facts in the matter. They are, perhaps, not enough to justify a crusade, on sanitary grounds, against the keeping of pet animals. Pet animals are, however, the fad of the day. They are multiplying more and more, and it does not seem unreasonable nor is it dictated by any desire to produce a sensation that we should demand of their owners great care in the matter of detecting the first signs of disease in them, and then so guarding them as to prevent their being a source of contagion to the human. Especially does this warning seem necessary with regard to children. With them the animals play more freely, and readier opportunities for infection are given. Moreover, growing children are less resistive to disease, and they present excellent cultural opportunities for micro-organismal growth when once implantation has taken place. The older and better-informed people may take foolish risks if they will; there should be no such option in the case of children.

ECHOES AND NEWS.

Sugar from Albumen.—M. Ferdinand Blumenthal has described to the Académie des Sciences de Paris a process of making sugar from albumen which may throw some light on the pathology of diabetes.

A Popular Impression Verified by Science.—A German statistician has discovered that ballet-dancers as a rule attain an age much above the average. The names of a number of celebrated dancers are given whose ages range from fifty to eighty years. Some of these artists are still fulfilling engagements.

Quarantine to Guard against Rabies. — The British Government is making strenuous efforts to stamp out rabies in the British Islands. The State Department at Washington has been informed through the British Ambassador that every dog imported into Great Britain is required to have a license from the Board of Agriculture.

Disinfection at Havana of Ships Clearing for United States Ports.—Dr. Brunner, the chief quarantine officer of the Marine Hospital Service at Havana, has begun the thorough disinfection of out-going ships bound to southern ports of the United States. The health authorities of Louisiana and Alabama have decided to admit such vessels but for the present those of Florida and Georgia will insist upon quarantine.

Appropriation for Professor Koch's South-African Expedition.—The German Imperial Parliament has made a grant of 60,000 marks, about $15,000, to defray the expenses of Professor Koch's scientific investigations of malaria in South Africa. The Government considers very sensibly that anything that will lead to a better knowledge of the disease will redound so much to the benefit of the German colonies and colonists that the expenses involved are regarded as a good investment.

Must Surgeons Wear Masks While Operating?—Gloves for surgical work, in certain lines at least, have come to stay. Now comes the question of making the patient's breath innocuous and preventing particles from the surgeon's face or hair from falling on the field of operation. Dr. Berger of Paris recommends a gauze mask for this purpose. He and his assistants have worn them in sixty-eight cases of radical operation for hernia with union by first intention in every case and no rise of temperature.

Another Medical Martyr to the Plague. — Major Evans, formerly of the British military service in India, and latterly Professor of Pathology in the Calcutta Medical College, died March 13th from plague. He contracted the disease while engaged in making the post-mortem examination of a subject who had died from the disease. This makes at least the fourth victim within the last few years among medical men that the plague has claimed as its own while they were engaged in studying the nature of it.

The Cancer Bacillus.—A cablegram from Paris to the New York *Herald* announces the confirmation of Dr. Bra's statement that he has succeeded in isolating the parasite which is invariably present in cancerous growths. It is a fungoid of the ascomycetes family, and is believed to be the active agent in the production of cancer. Inoculation of animals with a culture produced cancerous tumors, from which the parasite could be again isolated. Experiments are being made looking to immunization and curative treatment.

Sick and Wounded Soldiers Returning from the Philippines.—General Otis has notified the War Department at Washington that he has sufficient transports at hand and will send home at once the sick and wounded of his army. Several of these vessels will leave shortly for San Francisco with the sick, wounded, and convalescent. The transports will be met at San Francisco by paymasters who will pay off the men and send them to their homes at the Government's expense. Those who are unfit for travel will be sent to the Government hospital until they have sufficiently recovered to pursue their journey.

Comparative Mortality of Married and Single.—Dr. Livrier, a French statistician has recently published some very interesting mortality statistics. He announces that

half of all who are born die before 17, that only 1 person in 10,000 lives to be 100 years old and, still more striking, that only 1 person out of every 1000 lives to be 60. The married live longer than the single, but for every 1000 births there are only 95 weddings and as some people indulge themselves in a second and even third matrimonial experience it is evident that only a comparatively small proportion of mankind are willing to make all the sacrifices necessary to secure long life.

Keen's "Surgical Complications of Typhoid" in England.—We had occasion recently to express our high appreciation of Dr. Keen's monograph on this subject, almost at the same time (in the number for March 25th) the *British Medical Journal* comments most favorably in its editorial columns upon the same subject: "The work," the editor says, "deserves the attentive perusal of all practitioners. It is, perhaps, the most important contribution to the literature of the 'borderland' between medicine and surgery that has yet appeared from any American author." This is indeed high praise for an American work, coming from our thoroughly conservative British contemporary.

Yellow Tinge of the Palms and Soles as a Symptom of Typhoid.—A certain yellowish-tinge of the palms and soles is said by the *Medical Press and Circular* to occur at the beginning of typhoid fever and persist until convalescence is well under way. The yellowness is attributed to feeble circulation by which the subcutaneous fat becomes sufficiently apparent through the skin to tinge the cutaneous color. It is said to be more marked in proportion as the integument is thickened by toil, but is visible even when the skin is quite thin. The appearance is called the palmar sign of typhoid. We do not think that any special attention has been given to the sign in this country.

The Fothergill Medal to Dr. Copeman. — The Council of the Medical Society of London has just announced, on the recommendation of a special committee, the award of the Fothergillian Medal for 1899 to Dr. S. Monckton Copeman of London "in recognition of his researches on the preservative effects of glycerin upon vaccine lymph and of the practical benefits that have arisen therefrom." Dr. Copeman delivered the 1898 Milroy Lectures on Vaccination before the Royal College of Physicians of London. They have since appeared in book form and have attracted much attention. They were founded mainly on original investigation into the bacteriology of vaccine material.

"Glimpses of Influenza in the Past."—In the *British Medical Journal* for March 11th there is a very interesting paper with the above title. Among the various epidemics of influenza described are: The "Mure" which prevailed in Italy, Germany, and Great Britain in 1173; the "Coccoluche," a pandemic wave which swept over Europe in 1510; the "New Acquaintance" which was found in Edinburgh in 1562; "Catarrhal Feaver" which Willis described in 1658; the "Epidemic Cough" described by Syndenham in 1675, and a "Most Compleately Epidemic" disease described by Huxham in 1733. From 1693 up to the present time, not counting the series which began in 1889-90, seventeen severe epidemics of influenza have occurred.

A Missing Drainage-tube.—The *Medical Press and Circular* of London gives the result of a recent English trial for malpractice because of the loss of a drainage-tube in an abscess-cavity. Dr. Findlater of Edgware opened an abscess some three years ago and inserted a short drainage-tube. At the next day's dressing it had disappeared and despite careful probing no trace of it could be found. The wound healed but the arm remained more or less useless. A few months ago a fresh abscess formed, which on being opened gave exit to the missing drainage-tube. The patient sued Dr. Findlater for damages on the score of negligence in his professional duties. The verdict was for the Doctor, the telling point in the defence being the fact that the plaintiff herself thought that the missing drainage-tube had been lost in the room and was not in the abscess-cavity.

Drs. Watase and Takamine Honored. — On March 28th the Imperial University of Japan at Tokio conferred the high honor of the doctorate, corresponding to LL.D. of the Occidental Universities, on two of its graduates, Drs. Sho Watase and Jokichi Takamine. The former is Assistant-Professor of Cellular Biology in the Chicago University, and Dr. Takamine has made brilliant researches in some branches of cryptogamous botany which have already yielded valuable economical results in this country as well as in Europe. It will be seen that both these men have won their way in a foreign country, and Dr. Takamine is attached by the most pleasant domestic ties to this country. One of the most important discoveries in his chosen field of research bears his name in a modified form, for to his diastase he has attached half of his name in the syllable "Taka," which means "strong" in Greek, and "high" in Japanese.

Privileges of Doctors on Bicycles.—At Gosport, England, not long ago, the magistrates dismissed a police summons against a doctor who had been brought before them charged with violating the ordinance of the town which forbids riding a bicycle on the foot-paths or sidewalks. The grounds for the dismissal were that a medical man when called to an urgent case has a right to take the shortest, most expeditious way. In certain of the towns of Southern Germany, a doctor mounted on a bicycle has the right of way over other vehicles, the same as an ambulance, by ringing his bell and displaying a colored signal that indicates that he is on a hurry call. Under the same circumstances, too, he may use certain busy streets that are ordinarily closed to bicycles. Are the bicyclists in the profession of America slow to claim the privileges that ought to be theirs, or have we perhaps not the same need here for such privileges?

The O'Dwyer Memorial. — A committee of over forty physicians, representing sixteen different medical societies of the City of New York, and including representatives of both schools of medicine, has been formed for the

purpose of doing honor to the memory of Dr. Joseph O'Dwyer. The memorial will probably take an educational form. By the plan now outlined it is proposed to raise a fund of $30,000, the interest of which shall support two O'Dwyer Fellowships in Pediatrics, open to competition by physicians who graduate in the United States, and to be held by the successful competitors for a period of two years. During this period they must furnish satisfactory proof of their engagement in original research work to a committee of five, one of whom shall be appointed by each of the following: the President of Harvard University, the Dean of the Johns Hopkins Medical School, the Provost of the University of Pennsylvania, the President of the University of Chicago, and the President of the New York Academy of Medicine.

Health and Sanitation at Manila.—Some time ago an ex-officer of the British army wrote to the Secretary of State, John Hay, in regard to the health of the American troops in the Philippines and expressed the fear that the troubles which had overtaken the British in India would likely befall the Americans. The letter was sent to General Otis who returned it with the following endorsement: "The troops here soon become acquainted with and accustomed to the climate. At present, as affairs are somewhat critical, military duty is exacting, but I think, however, that the health of the command will compare favorably with that of the British army in India, there being only eight or nine per cent. on sick report for all causes. The condition of this command is constantly misrepresented in the United States." Considering that the American troops in the Philippines are fighting in a tropical climate where the temperature is constantly so high that the breech-clout is the sole covering of a large proportion of the population, the percentage reported by General Otis should be a matter for felicitation rather than for misrepresentation.—*Army and Navy Journal.*

CORRESPONDENCE.

THE NEW YORK BOARD OF HEALTH AND THE SALE OF ANTITOXIN.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—In your editorial on the "New York Health Department and the Sale of Serum," published under date of April 8, 1899, you say, "The economic question, however, of a subsidized institution entering into competition with private enterprise, still remains. Except under extraordinary circumstances, it is pretty well agreed that this is wrong."

I cannot refrain from saying that extraordinary circumstances which were assumed to exist when the original law creating the Antitoxin Fund was passed in 1895, were imaginary rather than real. The Antitoxin-Fund law however, became a part of the charter in 1897, and the introduction and advocacy of the Collier Bill was an effort to take the municipality of Greater New York out of trade, in order that the Health Board might be free from all disturbing influences and able to devote its entire attention to the purposes for which it was created. It is also a matter of interest in this connection that it should be assumed to be necessary, for the maintenance of experimentation in other antitoxins, to continue the sale of the surplus antitoxin in order to furnish funds for such investigation. It is a poor principle in political science that a business should be carried on at a loss to obtain, indirectly, an appropriation for an object for which money could be readily obtained directly.

We are most heartily in accord with you when you suggest the propriety of the Board of Health now accepting the economic principle with which this letter opens, and by official action discontinuing the sale of serum. We believe that all fair-minded physicians will agree with you in this position, and this is exactly what the Collier Bill was intended to do. REYNOLD W. WILCOX, M.D.

NEW YORK, April 11, 1899.

CANCER STATISTICS.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—In Dr. Park's paper on "Cancer," published in your issue of April 1st, he says, "In England and Wales . . . where most careful statistics are kept, the cancer death-rate has risen from 1 in 5646 of the population in 1840 to 1 in every 1306 of population in 1896, that is, in 50 years the proportion has increased nearly five times."

I have not been able to obtain the figures for the years prior to 1864, but the increase in the cancer death-rate since that date, although indicating a steady growth of the disease, does not show anything as extraordinary as Dr. Park's figures. The following statistics, the earliest and the latest at hand, are taken from the reports of the Registrar-General. When this office was created I do not remember; but I hardly think that the statistical methods in vogue prior to 1850 are likely to have been remarkable for their reliability.

Ratio of deaths from cancer to each million of persons living (in England and Wales) in the following years:

1864	385	1884	563
1865	372	1885	572
1866	385	1886	590
1874	461	1894	713
1875	471	1895	755
1876	471		

Startling as these figures are the ratio for 1895 is only double that of 1865. Moreover, taking the total number of deaths and making no allowance for increase of population, the statistics do not demonstrate a three-fold increase in thirty years, although they approach it.

Total number of deaths from cancer in England and Wales: 1865, 7922; 1875, 11,414; 1885, 15,260; 1895, 22,945.

If Dr. Park can vouch for the accuracy of his figures for the year 1840—no doubt fifty years ago the term "cancer" included sarcoma and other tumors—the increase of the death-rate in the twenty-four years from 1840 to 1864 must have been appalling, even as compared with the increase between the latter year and 1895. I confess, however, that I am unable to convince myself that the cancer mortality-rate can have been multiplied five-fold in fifty-six years (1840–1896) when the Regis-

trar-General's reports show that the ratio has only been doubled—an alarming growth—in the past thirty-one years (1864–1895). Should my incredulity upon further investigation prove unfounded I shall hasten to make confession.

A word upon another subject. Any comparison between the cancer death-rate and the phthisis death-rate in New York State is fallacious, because so many sufferers from the latter disease leave the State in the hope of deriving benefit from a change of climate, never to return. As a result the figures usually quoted of the number of deaths from "consumption"—meaning tuberculosis pulmonalis, I suppose—are below what they should be, just as those of the States to which phthisical patients are sent in search of health are higher than the correct facts warrant.

I am not a physician and I know absolutely nothing of pathology. I have ventured to write this letter in consequence of having had some little experience in dealing with statistics.

Yours etc.,

Lawrence Irwell (M.A., B.C.L.).

Buffalo, N. Y., April 10, 1899.

VERATRUM VIRIDE IN THE TREATMENT OF PNEUMONIA.

To the Editor of the Medical News.

Dear Sir:—Among physicians, with few exceptions, blood-letting in pneumonia has been relegated to the past. Yet we are often confronted with the question as to whether it would not have relieved arterial tension and thereby alleviated the engorgement of the lung tissue, and at least modified the course of the disease. In veratrum viride we have the lance, now discarded by many, that will slow the circulation, relieve arterial tension, stay the engorgement, and modify the disease, by bleeding the patient in his own veins, thus conserving his strength for the struggle he has entered upon. I was taught more than twenty years ago to rely upon a good quality of veratrum viride (Norwood's tincture), to give it intelligently, and to watch its effects. The indications for its use are the early stages of engorged lung tissue or a harsh bounding pulse of 108 to 120. It has ever been a faithful, reliable friend, as positive in its effects as almost any drug we possess.

It has been claimed that veratrum is too depressing. I would ask which is ultimately the more depressing, a heart with the brakes off, clipping away at a rate of 120 to the minute, or a heart held down to 70 or 80 with veratrum viride? In sthenic subjects, with a tense, bounding pulse of 120, three to five drops of Norwood's tincture of veratrum viride, guarded by $\frac{1}{60}$ of a grain of strychnin every two or three hours will many times bring the pulse to 70 or 80, with a soft natural feeling, the patient expressing relief from pain and oppression in breathing. If the temperature is not correspondingly reduced, which I think is seldom the case, small doses of phenacetin, 5 grains, guarded with 2 grains of caffein, may be given between doses of veratrum and strychnin. If nausea occurs the veratrum viride should be withdrawn and good whisky given, which will relieve the sick stomach.

Veratrum viride, in my opinion, is much safer than the coal-tar preparations. If the patient gets an overdose of veratrum he is nauseated and vomits it. Later, after the active inflammatory stage has subsided, the veratrum should be stopped and stimulants, such as strychnin, the ammonias, and whisky relied on,—strychnin in large doses if there be stupor, shallow respirations, and cyanosis. The poisonous action of veratrum viride upon the system may be alarming, yet I have never seen any deaths reported from its use and it is not accumulative.

Z. T. Magill, M.D.

Winters, Cal., April 1, 1899.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

PUBLIC HEALTH OFFICERS IN COUNTIES AND TOWNSHIPS OF THE STATE—ANNUAL MEETING OF THE STATE MEDICAL EXAMINING BOARD — A HOMEOPATHIC HOSPITAL FOR THE INSANE — REPORT OF THE NORRISTOWN HOSPITAL FOR THE INSANE—AN OFFICIAL'S VIEWS ON TYPHOID FEVER—SOME STATE APPROPRIATIONS—REPORT OF THE EPILEPTIC COLONY AT OAKBURN — PERSONAL NOTES — HEALTH STATISTICS.

Philadelphia, April 11, 1899.

An act to provide for the appointment of medical officers of public health in the counties and townships of this State failed to pass the House of Representatives last week because of lack of a constitutional majority. Under the prevailing law all complaints within municipal limits can be enforced but, as Dr. Lee points out, "Objectionable establishments being warned by the local board of health that certain improvements must be introduced in order to abate the nuisance which they are causing, simply remove just outside municipal limits where they continue to be a menace to the public health. In the second place although every possible precaution be taken to prevent the spread of contagious diseases within the municipal limits, ordinances cannot be enforced beyond a certain line, and in many cases that line may be the middle of a street built up on both sides. It is evident, therefore, that while infection can be prevented from spreading on one side of the street there is no control over the residents upon the other side. It is necessary, therefore, that steps be taken to protect cities and boroughs from nuisances and epidemics in their suburbs which are yet outside their jurisdiction."

In the last annual report of the State Board of Health Dr. Lee states that appeals are constantly addressed to him asking why those living in rural districts and villages are not equally entitled to protection for their lives and health as are those living in large cities. There is a mistaken impression abroad that the country districts are naturally so healthy as to need no laws for the prevention of disease. There could be no greater mistake. Typhoid fever has long been known to be a disease of the country village and farm, and all of the contagious diseases peculiar to childhood, such as scarlet fever, diphtheria, and

measels, run riot in the children who attend public schools.

The next annual meeting of the State Medical Examining Board will be held June 20th to 23d for the purpose of examining applicants for a license to practise medicine in Pennsylvania. The State Medical Society will held its examinations in Philadelphia and Pittsburg, the Homeopathic Board in Philadelphia, and the Eclectic Board will meet in Harrisburg.

The Homeopaths of Pennsylvania have good reason to rejoice for their tireless efforts to secure a State institution seem about to bear fruit. The bill appropriating $150,000 for the purchase of grounds and the erection of a building to be used as a hospital for the homeopathic treatment of the insane of this State was reported favorably from committee last week, and in all probability will now become a law. At the same time comes the monthly report of the Norristown State Insane Asylum which shows, according to the Resident Physician, Dr. D. D. Richardson, that the hospital is so overcrowded as to compel 314 patients to sleep on the floor in the corridors. The trustees year after year vainly ask for more money for additional accommodations, but with the election of Dr. Joseph Thomas, who was chosen last week to fill the position of President of the Board, new energy will be infused, and success may at last crown their efforts.

It is not very often that a public official delivers opinions on medical subjects but Mayor Ashbridge, in his inaugural address, gave utterance to a few remarks upon the present epidemic of typhoid which are worth repeating: "While I am far from believing that there exists a typhoid epidemic, I cannot deny that there is more than there should be if the drinking-water is responsible. Statistics show that while the proportion of deaths elsewhere is as 1 to 5, yet in Philadelphia the rate is 1 to 11. I can scarcely believe that the practitioners in every other large city are so lacking in the knowledge of this disease as the figures seem to show. I am inclined to believe, on the contrary, that half the cases of so-called typhoid fever reported in this city are not typhoid at all but enteric or intermittent fevers." It is with such arguments and ignorance that the people at large are beguiled while the water-question remains the same in spite of all the indignation meetings, committees on pure water and newspaper complaints.

Among the items in the General Appropriation bill of the Legislature for 1899 are the following: Medical Council $3000; Dental Council, $1500; Hamet Hospital Association, Erie, $10,000; State Hospital of the Middle Coal Field, $40,000; Pennsylvania Institution for the Blind, $88,000; St. Vincent's Hospital, Erie, $16,000; Pennsylvania Training School for Feeble-minded Children at Elwyn, $210,000.

The annual report of the Pennsylvania Epileptic Hospital and Colony Farm at Oakburn gives a summary of the work accomplished during the past year, the third since its inauguration. During this year 31 patients were admitted and 25 discharged, of whom 14 were benefited. This institution is the only one in Pennsylvania where epileptics are received and given employment in order to improve their condition and it is hoped that the lack of funds which now exists will be remedied so that the many applicants which the institution is at present compelled to turn away may receive treatment. Dr. Wharton M. Sinkler is the president; Charles M. Lea, vice-president; Dr. S. W. Morton, secretary, and S. W. Climenson, treasurer.

At the conversational meeting of the Pathological Society to be held on April 27th, Professor R. H. Chittenden of Yale will be the speaker of the evening.

Mayor Jeffries of Chester has appointed Dr. S. V. Hoopman a member of the Board of Health to succeed Dr. F. Evans.

Dr. Addinel Hewson, Demonstrator of Anatomy at the Jefferson Medical College, was last week presented with a case of surgical instruments by the undergraduates on the occasion of the twentieth anniversary of his connection with the college. The Guiteras Medical Society of the University of Pennsylvania last week gave a farewell dinner to their patron, Dr. John Guiteras, who severs his connection with the university this spring to settle in Havana. R. K. McClanahan, assistant-surgeon, U.S.N., has been assigned to duty at the Naval Hospital in this city.

The total number of deaths occurring in Philadelphia during the week ending April 8th, as reported at the Health Office was 584, of which number 142 occurred in children under five years of age. The total number of new cases of contagious diseases was 365 reported as follows: Diphtheria, 38 cases with 2 deaths; scarlet fever, 31 cases with 3 deaths; typhoid fever, 296 cases with 48 deaths.

OUR LONDON LETTER.

[From Our Special Correspondent.]

THE "GOVERNMENT" SCHOOL OF TROPICAL DISEASES —DR. MURRAY'S LECTURES ON THE PATHOLOGY OF THE THYROID GLAND—PRAISE FOR GENERAL WOOD, THE AMERICAN GOVERNOR OF SANTIAGO—SIR DOUGLAS GALTON—CINNAMON AS A SPECIFIC IN INFLUENZA.

LONDON, March 29, 1899.

PRECISELY what we foreboded has happened in the development—proceeding with cretinic slowness—of the much-trumpeted "Government" School of Tropical Medicine. A committee has been formed headed by Sir Donald Currie the "Ship King," and a public dinner announced to be addressed by Secretary Chamberlain himself in a winning appeal to the dear public to come nobly forward and subscribe *four-fifths* of the building fund and *two-thirds* of the annual income of this "Imperial" scheme. Could a more disgraceful affair be imagined? In America we are quite accustomed to seeing private individuals or companies endeavoring to get the Government to bear the burden of their financial enterprises, while they draw the profit, but we are not quite familiar with the spectacle of a great government stooping to wheedle and cajole private charity into paying three-fourths of the expenses of a State enterprise of which the State is to have all the credit and two-thirds of the benefit. It is as if a fond parent were to say to a small college, "I

will build you a dormitory and pay full tuition-fees for the instruction of all my family of children if you will call the whole institution by my name!" All the Foreign Office promises toward the support of the school is to pay tuition-fees for its Colonial medical officers, *estimated* to reach *about* $5000 a year. The Honorable Joseph seems to have been taking a leaf out of the book of his illustrious namesake who engineered the celebrated "corner" in Egyptian wheat a few thousand years ago.

As a refreshing contrast the private School of Tropical Medicine at Liverpool has just called the foreign consuls of the port together, announced through Professor Boyce that they will be ready for students and patients April 22d and asked them to kindly bring the fact before the attention of their respective governments and assure them that either their sick seamen or ship-surgeons and colonial medical officers will be cordially welcome at the hospital and school. The "Government" School talks hopefully of an opening in October! But that largely depends on how the public responds and judging by its inadequate response to the Prince of Wales' Hospital Fund, it would seem as if the limit of its charity had been almost reached. No wonder the medical profession and hospitals were wary of the scheme.

Altogether the present Government and House are not exactly laying up for themselves treasure in Heaven by their conduct of questions of public health. Beginning by repudiating their promise to introduce a Revaccination bill, they continued two weeks ago by refusing to raise the flash-point of petroleum from its present disgracefully and murderously low standard of 73°, which stands responsible for nearly 200 deaths a year in London alone. While this week it has weakly surrendered to railroad clamor and "taken the starch out of" the bill compelling railroad companies to equip their cars with automatic couplers and thus save a terrible waste of human life. In the petroleum debate several of the States, Iowa in particular with its flash-point at 103°, were held up as examples of perfection to their British cousin.

Dr. George R. Murray's lecture at the College of Physicians on the "Pathology of the Thyroid Gland" have been of great interest. In the one of last week he took the ground that exophthalmic goiter and myxedema are opposite poles of our secretion flow. This he graphically expressed in the form of a series of equations. Taking the normal amount of thyroid secretion at 100, secretion + 25 or 125 = mild exophthalmic symptoms, + 50 = moderate and + 100 or 200 = severe types of the disease. Conversely secretion − 25 or 75 = a mild form of myxedema, − 50 = a severe form and − 100 or complete suppression of the secretion = cachexia thyropriva. Exophthalmic is made worse, ordinary goiter better by thyroid extract and a series of most suggestive sections were shown in which the conditions of a monkey's thyroid hypertrophying after removal of the other lobe were almost identical with that of a thyroid from a fatal case of Graves' disease.

A number of cases are now reported where myxedema followed severe exophthalmic goiter, just as atrophy follows hypertrophy in other organs and Guriquez and Ballet have succeeded in producing typical exophthalmic symptoms in dogs by excessive thyroid feeding.

He advised removal of a part of the hypertrophied gland in exophthalmic goiter, a procedure which has given some admirable results, but which has been followed in some cases by a violent and in one instance fatal exaggeration of the symptoms, the pulse reaching 150 and even 180, believed to be due to squeezing and manipulating the gland during the operation and thus forcing out an excessive amount of its secretion into the blood-vessels. At all events in the later operations where such pressure was carefully avoided no such symptoms occurred.

The Ophthalmological Society of Great Britain at its last meeting voted to follow the example of the British Medical Association and admit women physicians to its membership.

The influenza epidemic still rages, and though the form continues mild and of the nervous type in the vast majority of cases, yet an unpleasant number of pneumonitic sequelæ developed last week and brought the death-rate for London up to 100 again from 90 of the week before.

Spurred by the sad death of Dr. Boyd, Rector of the University of Glasgow, from a dose of carbolic-acid solution taken in the night in mistake for a sleeping mixture of chloral hydrate, the Government has at last announced its intention of according to the oft-repeated urging of the profession that carbolic acid should be placed on the list of poisons and dispensed only as such. Had this been done a month ago this fatality, like many previous ones, would have been avoided, for, by an excellent provision the English law requires poisons not merely to be labelled as such, but dispensed only in deeply fluted bottles, so that warning would be given by the sense of touch, even in the dark.

Our General Wood is decidedly the popular hero of the day over here, now that the Sirdar has gone back. On all hands you hear, "That's what comes of having a man with medical training in a responsible official position." His achievements at Santiago are admired everywhere and regarded as a triumphant vindication of American unselfishness and competence, and no small object-lesson of the high civic value of modern medicine.

The death of Sir Douglas Galton has removed one of the pioneers of military hygiene. He early distinguished himself by insisting upon paying even more attention to the building of barracks and sanitation of camps than to the construction of earthworks and trenches, though only a Royal Engineer and not a medical officer. To him belongs the credit of many of the hygienic reforms in army management, and since his retirement he has been actively connected with the Parkes Museum of Hygiene, of which he was one of the founders.

The principal points of fresh interest brought out by Professor Burdon Sanderson of Oxford in his lecture upon "The Electric Concomitants of Motion in Animals and Plants," before the Royal Society last week, were two, one that the immediate result of stimulation of a muscle at any point is always oxidation of its tissue at the point of irritation, with liberation of acids. This breaking-down of tissue gives rise to a change of electric poten-

tial, so that if this point of the muscle be connected by a good conductor with any still unimpaired region of its mass a current is at once set up. This so-called "muscle-current" is, however, solely due to the differences in electric potential between the particular regions at which the electrodes are applied, and has no necessary effect whatever upon the stretch of muscle lying between these points. In fact the familiar electric changes in contracting muscle are merely a symptom of contraction-oxidation, and not its cause. The other, that a similar change of electic potential between the stimulated and non-stimulated areas of the leaf accompanies the movements of "sensitive" plants, *e.g.*, Dionæa and Drosera.

A writer in the *British Medical Journal* strongly recommends cinnamon as a "specific" in influenza. He has given it in the form of a decoction or tabloids in large doses in previous epidemics, and in no case where the treatment has been begun within twenty-four hours of the commencement of the attack has he failed to get his patients up and about again in five days.

Cinnamon, like nearly all other aromatic spices, is an excellent germicide, and has several times been recommended as a substitute for carbolic, iodoform, and other less fragrant antiseptics. Possibly it may have a discouraging effect upon the spirellum of Pfeiffer, but inasmuch as the period of prostration in uncomplicated cases of influenza averages only from three to five days, we must confess that we are of the opinion that the gentleman would have got nearly as good results by simply keeping his patients in bed and prescribing any other hot drink, such as lemonade. weak gin-sling, or even the renowned "slippery-ellum," in abundance.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

ACUTE ELEPHANTIASIS OF THE SCROTUM—DANGER OF INFECTION IN TUBERCULOSIS—ON THE USE OF MASKS IN TUBERCULOSIS—RAISING THE ARM IN PARALYSIS OF THE DELTOID—APPENDICITIS IN SITUS INVERSUS—AFFECTIONS OF THE LUNGS IN TYPHOID FEVEK—A CASE OF PARTIAL HYPERIDROSIS — IMPROVEMENT OF DEAFNESS UNDER MECHANICAL EXERCISES.

AT the Berlin Medical Society, February 15th, RUBINSTEIN showed a case of acute elephantiasis of the scrotum occurring without immediate venereal precedent in a man aged twenty-three years, who lifted a very heavy weight and noticed almost immediately a swelling of both sides of the scrotum. One week later the scrotum was three or four times its normal size while the penis was not affected at all, nor were the testicles larger than normal. Two years previously, the glands in the right inguinal region had been resected on account of acute inflammation. A few similar cases have been reported, produced as was this case, by a sudden strain in a person suffering from chronic gonorrhea, but in all of them the inguinal glands of both sides had been resected. The swelling was considered that of elephantiasis since several punctures failed to extract any fluid.

At the session of February 22d, CORNET read a paper on the danger of infection in tuberculosis. It has been usually accepted that infection takes place through the dust of dried sputum. This view has been disputed, especially by Flugge, who holds that infection takes place almost exclusively from the fine drops which are expelled in coughing. If this view is accepted the prophylactic measures at present employed must be vastly altered. Cornet conducted a series of experiments in order to settle the question. He easily proved that the dust of dried sputum may be an important source of infection. The failure of some investigators to produce tuberculosis in animals by using such dust was one of the chief points in Flugge's argument. Cornet shows that such failures were due to errors in the technic. If the dust is fine enough to be breathed into the deepest portions of the lungs infection readily follows. A single mass of sputum expectorated by a phthisical patient contains more bacilli than are found in the fine drops which are coughed out into the air by dozens of patients. An estimate has been made from the examination of masks worn by these patients, that the number of bacilli so coughed up in one day, is only one three-millionth part of the number contained in the expectorations for one day. The testimony of experience coincides with that of these experiments. Under measures directed toward the prevention of infection through expectoration the percentage of cases of tuberculosis in Prussia has steadily diminished. Under these circumstances, it seems that it is an unnecessary hardship to compel a phthisical patient to wear a mask day and night, as some physicians have advised.

In the discussion of this paper HAUPT said that he looked upon tuberculosis as a constitutional disease, rather than as an infectious one. Therefore, it was a matter of indifference to him whether the statement of Cornet or that of Flugge was accepted. If either theory was correct, tuberculosis ought to be conveyed from husband to wife or vice versa far oftener than is the case. He once investigated 1500 cases of phthisis in married people, and found that in 93 per cent. the surviving party remained healthy. In the 7 per cent. of instances in which the surviving party suffered from phthisis he often found a hereditary taint. The most important factor in reducing tuberculosis in a community is to improve the conditions of life of the people.

FRAENKEL insisted on the value of a mask of gauze for phthisical patients. It is the duty of a physician, he said, to do all in his power to limit the spread of disease, and the infectious power of the sputum is beyond all doubt. These masks have been shown to catch a certain number of bacilli, and they therefore are of use in limiting the spread of the disease. They are only advised under those circumstances in which the patient is in a closed room with other individuals, for example in the family or in a hospital. While out of doors it is not necessary to wear them, as the danger of infecting others by coughing is under those circumstances at a minimum.

LAZARUS objected to the use of masks because they make it more of an effort for the patient to breathe. He considered that the proper disposition of the sputum is a sufficient safeguard against the spread of the disease. In

proof of this he called to mind the fact that in his hospital service, although phthisical patients and others were mixed indiscriminately in the wards, he had seen no case of infection arising in the hospital. He warmly advocated the erection of sanataria in suitable localities, rather than the setting aside of certain hospital wards for the use of phthisical patients. In the former institutions not only are many patients benefited to the extent which it is possible for any such patient to improve, but they learn how to take care of themselves so as not to be a source of danger for those around them, and with this knowledge their spirits return, and the depression leaves them which has come upon them as the result of the widespread feeling in the community that every phthisical patient is a possible source of contagion to his fellows.

At the session of March 1st, KRON showed a patient aged ten years, who had a complete paralysis of the deltoid muscle, due to an anterior poliomyelitis in the first year of life. In a short time after treatment was begun, he had succeeded in developing the use of the trapezius, serratus, supraspinatus and pectoralis major muscles, until the arm could be raised above the head. The arm was first raised forward by the clavicular portion of the pectoral and held there until the muscle was exhausted. When this exercise had developed its strength, attempts to move the arm sidewise from its elevated position were made, and after a short time the arm could be raised direct from the side of the patient.

RATKOWSKY mentioned a case of recurrent appendicitis occurring in a physician who had complete situs inversus of all the organs. The left-sided attacks were at first ascribed to a stenosis of the sigmoid flexure, but their further recurrence, led to the discovery of the inversion of the organs, and as all the symptoms and the results of physical examination agreed with this theory, there seemed to be no reason to doubt that the diagnosis was the correct one. The remarkable thing about the history of the case is that the inversion of the organs had not been discovered either by the numerous physicians who had examined the patient in these attacks, nor by the military examiners, nor by the patient himself in his student days. The heart sounds could be heard on the left side, though feebly.

At the Berlin Union for Internal Medicine, February 26th, FRAENKEL spoke of the affections of the respiratory apparatus in typhoid fever. He mentioned three classes of such cases: (1) those of fibrinous pneumonia with typhoidal symptoms; (2) those in which a typhoid fever is complicated with true fibrinous pneumonia, and (3) pneumotyphoid, in which the lesions are caused solely by the typhoid bacilli. The first form corresponds to the so-called asthenic pneumonia, which cannot be sharply differentiated from the sthenic form. The typhoidal symptoms are often combined with diarrhea and meteorism. In the first days there is nothing definite in the lungs, as the disease begins in the central portions. In these cases the pneumococcus was regularly found, especially in fluid from the middle portion of the lung. The second form was seen by Fraenkel only 6 times in 500 cases of typhoid observed by him in the past 9 years. This mixed infection may occur in any stage of typhoid fever, but it gives only a faint picture of pneumonia, altering the typhoid curve only slightly, causing a slight rise of temperature, but not the crisis seen in pneumonia alone. The diagnosis is more easy to make if it occurs during the convalescence. In reference to the third form there are two secondary questions to answer: Can the typhoid bacillus produce pneumonia? and if so in what form? and, is there such a thing as a primary pneumotyphoid? Of the latter there is yet no positive evidence. There is a secondary migration of the typhoid bacilli from the blood into the lungs, producing a hypostatic pneumonia. But under these circumstances they only act in conjunction with other germs in setting up the pulmonary inflammation. But typhoid bacilli may cause pneumonia, as the following case shows: A young man convalescing from typhoid fever, in the fifth week from defervescence, developed a new rise of temperature. There was an area of dulness found posteriorly, and a needle thrust through the chest wall at this point drew out reddish pus. Later a serofibrinous exudate formed there. From both of these, pure cultures of the typhoid bacillus were obtained. The case was a typical pleuropneumonia which went on into contraction, the disease tending to spontaneous cure.

At the Imperio-Royal Society of Physicians, at Vienna, March 3d, KAPOSI showed a case of partial hyperidrosis in a boy aged fifteen years. In the first year of life he had perspired profusely from the skin over the nose. Until the eight year the area so affected gradually increased until the sweat came from lips, chin, ears, front of the neck, arms, and chest, as far as the sixth rib. In the seven years following, the condition spread very little so that at the fifteenth year the skin was affected only a finger's breadth below the costal margin. The sweat pours out quickly the moment anything cold comes in contact with the skin or mucous membranes. When the patient takes violent exercise and becomes warm, especially in the summer, this abnormal secretion of sweat does not occur. There was no organic lesion demonstrated except a cyanosis of the fingers, nose, etc. The patient had also a kyphoscoliotic spine, which, however, gave him no trouble. Ligature of the arm prevented the occurrence of sweating in it, but as soon as the ligature was removed the sweat poured out in more than its usual volume. The diagnosis of the condition was thought to be a hydromyelia of the cervical and dorsal cord.

URBANTSCHITSCH replied to the criticisms which had been made of his method of treatment of deafness by systematic exercise (MEDICAL NEWS, March 25th, p. 381), saying that the pathological anatomy of the middle ear is not so well known that one could disprove the results of treatment by an appeal to the impossibility of changing pathological conditions. He had seen, for example, good results follow the exercises in patients who were deaf for ten or fifteen years as a result of meningitis. The exercises are sometimes not carried out with sufficient persistence. He had been able to achieve considerable improvement in the case of a girl who had been treated without benefit by another physician by the same method, but less vigorously. It has been estimated that

twenty-seven per cent. of the deaf are amenable to treatment by this method; and as there are about 200,000 deaf persons in Europe, the total number that may receive benefit is no inconsiderable one. He emphasized again the fact that the treatment does not need to be carried on by a specialist, but that any physician, or any intelligent patient or friend can look after its faithful performance.

SOCIETY PROCEEDINGS.

HARVARD MEDICAL SOCIETY OF NEW YORK.

Regular Meeting, Held February 25, 1899.

THE President, DR. HENRY C. COE, in the Chair.

The paper of the evening, entitled

EMPYEMA OF THE FRONTAL SINUSES AND INTRACRANIAL INFECTION

was read by DR. CHARLES L. GIBSON. Suppurative conditions of the frontal sinuses are comparatively rare so that it seems worth the while to report the following case which has some special and interesting features:

J. C., male, aged thirty-two years. Entered St. Luke's Hospital, February, 1897. In September, 1895, a swelling which had appeared at the inner angle of the left orbit was lanced and pus evacuated. A suppurating sinus was left which failed to close. About a year later the frontal sinus was opened and the cavity drained extensively. No opening was made into the nose. The sinus persisted, continuing to discharge a small amount of pus. The patient had had several polypi removed from his nose during the past two years. On entering St. Luke's Hospital he complained of the discharging sinus and persistent frontal headache, most marked on the right side. He had besides lost some weight. Physical examination revealed nothing new.

An operation under ether was performed, a horizontal incision being made in the line of the left eyebrow, including the fistulous tract at its central portion. This tract was freely enlarged and considerable pus evacuated. The cavity was scraped with a curette, except the posterior wall, which was not touched for fear of perforating the softened bone. The curette easily penetrated the septum into the right frontal sinus and let out two drams of pus. This appeared to be under tension, though there was no pulsation. An attempt to pass a probe on the left side downward into the nose failed, but it passed easily from the nose upward into the left sinus. It was considered unnecessary to make a second opening over the right sinus on account of the opening externally through the left sinus, and below into the meatus of the nose. A rubber drainage-tube was passed from the external opening through the nose. Two days after operation meningitis developed and the patient died after nine days. It had been noticed that washing out of the frontal sinuses aggravated the symptoms, and it was judged from this that a communication with the brain cavity existed. The autopsy showed pus in the pit of the base of the brain. Flattening of the under surface of the frontal lobe on the left side was also noted. The posterior cranial wall of the right frontal sinus was entirely wanting, there being a loss of substance one inch in diameter. The opening was in the form of a circle with smooth, well-defined edges. The dura here was very much thickened and covered with granulation tissue and blood. Both cribriform plates were carious but especially the right one. The cerebral wall of the left frontal sinus was eroded and showed two minute openings into the cranial cavity.

The condition of the left sinus had been known, though erosion of the posterior wall had been suspected as a probability during life, but the failure to open the right sinus externally rendered exploration of its walls and the recognition of its condition impossible.

This condition of almost complete absence of cranial wall on the right side was tried to be accounted for in three ways: (1) Destruction of the bony wall by extension of a suppurative process originating in the frontal sinus. (2) Destructive inflammation in the inner table of the frontal bone. (3) Structural deficiency of the inner table at the usual site of the cerebral wall of the frontal sinus.

It was first thought that it was a result of the empyema, but the extent and symmetry, the well-defined and smooth edges of the bony defect made it difficult to reconcile these appearances with the ones usually due to erosion. In the latter case we ought to find softened, carious, irregular edges, or a cribriform appearance, such as was found more or less on the left side. Osteomyelitis of the bone itself was then considered because it was possible that a process originating in the bone would be more likely to result in a loss of substance of better defined limits than in destruction by erosion. But this condition, osteomyelitis, must be exceedingly rare. The speaker quoted three cases detailed in the literature as osteomyelitis, but which he concluded were called so on insufficient grounds, the symptoms, etc., pointing as well to empyema as to osteomyelitis. Moreover in his own case he was unable to make the primary symptoms agree with a beginning osteomyelitis, and he consequently thought that this was not to be considered. There remained then the structural defect. He was able to find but one case of such a malformation in the literature. This was an opening about the size of a lentil, the edges being sharp and thin in the orbital roof of the left side. The lining membrane of the frontal sinus was directly in contact with the dura.

In this case there was no disease present. This except for the empyema corresponds with the opening found in this case. Defects of the outer table leading to the orbit have been noted with comparative frequency, and it seems reasonable to believe that the causes responsible for the latter condition may sometimes affect the cerebral wall also. The speaker believed these are more common than suspected but have been overlooked.

This case also illustrates the fact that in double empyema one should not be satisfied with an opening into one cavity even though the cavities communicate. If an external opening had been made in this case into the right frontal sinus the condition found at autopsy would have been recognized during life.

Discussion.

In response to the question as to what he thought of the advisability of flushing out the sinuses after freely opening them in such cases Dr. Gibson said that theoretically it would seem usually to be good surgery, but that in case long continued pressure might have worn the inner bony plate of the sinus very thin, or where long-continued chronic inflammation had weakened its resisting ability to external force it was very necessary not to make the irrigation under any pressure. It seems clear also from the present case that there may exist certain congenital defects of the posterior bony plate of the frontal sinus especially which may make flushing of the sinus after and during the operation dangerous. This last danger can only be anticipated and avoided by making a good-sized external opening that will permit of free inspection of the field of operation and its immediate neighborhood.

Dr. Royal Whitman thought that in cases of persistent frontal sinusitis, such as this, operation is indicated even though it involves a certain amount of risk and would be accompanied by a certain amount of mortality. As is the case of chronic mastoiditis, a purulent focus in these cases continually exists close to the cranial cavity separated from the membranes of the brain only by a comparatively thin bony plate which the pressure of a purulent collection and chronic inflammation are continually making weaker. The indication is evidently to open it freely and allow it to drain, and if possible to remove all sources of infection in the diseased region.

In conclusion Dr. Gibson said that he does not think that the mortality of operations for frontal sinusitis need be large, but where anomalous conditions exist as in the present case the patient's chances of recovery are very much lessened after operative manipulation and especially irrigation unless the condition has been recognized and special precautions taken.

NORTHWESTERN MEDICAL AND SURGICAL SOCIETY OF NEW YORK.

Stated Meeting, Held February 15, 1899.

The President, William Stevens, M.D., in the Chair.

HAIR-PIN REMOVED FROM THE BLADDER.

Dr. S. H. Dessau: Some weeks ago a young woman was brought to me by her mother with the following history: Five years ago she suffered from some uterine trouble, for which a pessary was introduced. This she had been taught to remove for the purpose of cleansing it. Two months previous to being seen by me she had attempted to remove the pessary, as usual, but was unable to do so. Being of an ingenious turn of mind, she took a hair-pin, bent the blunt end of it, and tried to hook the pessary down. She failed to do this, but lost the hair-pin, which slipped out of her fingers and entered the uterus, as she supposed. She told no one of this, and soon after began to feel some discomfort, especially during micturition, and this increased to such an extent that the family physician was consulted. It is said that he made a thorough examination, and came to the conclusion that the girl was hysterical, and that there was nothing the matter with her. The symptoms became more aggravated, and she soon was unable to attend to her duties as buyer for a millinery store. Micturition was very frequent, and was accompanied by violent pains, and it was decided to seek further advice.

After hearing this history, I decided that the case was worth looking into, and sent her to my friend, Dr. Vineberg, who is skilled in the use of the cystoscope, to have her bladder examined, and he discovered the hair-pin lying transversely across the bladder, and removed it with considerable difficulty through the cystoscope. On the posterior wall of the bladder there were a couple of inflamed areas which he touched with nitrate of silver. The symptoms, of course, have since disappeared. In using the cystoscope, Dr. Vineberg employs the Kelly method of inflating the bladder with air while the patient is in the knee-and-elbow position. I imagine that it would be much easier to explore the bladder in this way than when it is filled with water, as in the Nitze method. The interesting feature of the case is that the patient before coming to me was under the care of two other physicians, one of whom made a vaginal examination, and yet neither suspected that the bladder was the cause of the symptoms.

Dr. A. M. Jacobus: I have met with several instances in which hysterical girls have introduced various articles, such as glass and hair-pains, into the vagina or bladder, and have operated for the latter condition. In another case which came under my observation the patient had introduced a hair-pin into the uterus in order to bring on an abortion. It was removed with great difficulty, as it had passed beyond the os internum, and the points were directed downward and were widely separated.

In regard to the indiscriminate use of the pessary, I recently saw a woman who was wearing a pessary which had been introduced by a physician while she was in Dresden last August, and had not been looked after subsequently. She complained of great pain, and had a bloody leucorrhea. Upon making an examination I found that the pessary, which was of the ordinary Smith pattern, had cut several grooves which were raw and bleeding on each side of the vagina. It was too wide and too long, and entirely unsuitable. The woman had a retroflexed uterus, firmly bound down by adhesions, and it was criminal to apply a pessary in such a condition. Pessaries are often used unnecessarily, particularly in single women, in whom they should never be used. At best, they are merely temporary makeshifts.

NEW METHOD OF OPERATION FOR CONVERGENT STRABISMUS.

Dr. Edward S. Peck: I wish to call the attention of the Society to a new method of operating upon squint-eyes which has been suggested by Professor Panas of Paris, whose operation for cataract is so much in vogue at the present time. I have employed this method with

success in the case of a boy, fourteen years of age, who had squinted for thirteen years. If my memory serves me right, Professor Sayre employed the same principle in treating contracted tendons, and the maneuver is so simple and easy that it seems to me worthy of mention. It consists merely of stretching the muscle by means of strabismus hooks before it is cut in order to overcome the dynamic contracture of the muscle. Dr. Roosa, who has operated in more than twenty cases by this method, recently called the attention of the New York State Medical Society to the procedure. Simple tenotomy is exceedingly unsatisfactory in many cases of strabismus—even in a young subject the result is doubtful, and often the operation has to be repeated again and again. I think the profession should know that success does not follow in fifty per cent. of the cases, and that something besides mere cutting of the muscle is necessary.

ANTITOXIN IN DIPHTHERIA.

DR. DESSAU: Last winter I reported a case in which I had successfully employed antitoxin in diphtheria, and this evening I desire to report another. There seem to be efforts made in the neighborhood of New York to cry down the use of antitoxin, and I think we should fight them. To-day I received a pamphlet consisting of an argument against this method of treatment in the shape of three papers which have appeared in the *Medical Record*. My experience with antitoxin has been most satisfactory. The last case in which I employed it was an especially bad one of pharyngeal and nasal diphtheria, seen on the third day of the disease. The dose employed was 2500 units, the largest I have ever given. The only other treatment employed was a 1-to-3000 solution of bichlorid of mercury, containing a little tartaric acid, and thorough irrigation of the nose with normal salt solution by means of a fountain-syringe. It was a tenement-house case, but the mother carried out this part of the treatment better than do most women of her class. Improvement was noticed at once. A second dose, which I had expected to give, was not required, and the child is now up and about. An immunizing dose of 750 units was given to a year-and-a-half-old baby in the same family with the result that it has escaped infection.

TWO CASES OF PERFORATIVE ULCER OF THE DUODENUM.

DR. JOHN F. ERDMANN: I have here two specimens of perforative ulcer of the duodenum which were removed within two or three days of each other. Operation was performed thirty-six hours after perforation in the first case, and twenty hours after in the second case. The result in both instances was unfortunate, neither patient surviving. Both were males, about thirty years of age, who had previously been healthy. Perforation took place in the first portion of the duodenum in each case. Abdominal distention was a marked symptom.

DR. CHARLES H. KNIGHT then read the paper of the evening, entitled

FOREIGN BODIES IN THE LARYNX. (See page 458.)

DISCUSSION.

DR. PECK: I was impressed with the closing paragraph of the paper in regard to partial section of the thyroid cartilage in which the author says that the section should be confined to the lower part of the cartilage, leaving intact the upper part where the vocal cords are attached. I was also impressed by the ingenuity which was employed in the removal of foreign bodies from the larynx. I have removed more neoplasms than foreign bodies, and in some of the cases it was necessary to make a very extensive section of the thyroid cartilage but I have never seen this followed by bad results.

DR. NEWMAN: Two instances of foreign body in the larynx which have come to my knowledge deserve mention. In the first the patient was taken to a drug-store and a passing physician was called in to attend her. Having no instruments with him he administered separately the two parts of a Seidlitz powder and the effervescence which was produced in the stomach caused vomiting and the expulsion of the foreign body from the larynx.

The second case was that of a little girl who had inhaled a sprig of a cedar tree about an inch and a quarter long. It could be felt in the larynx but was so firmly lodged that it could not be gotten out by the usual methods. It was finally removed by means of a pair of forceps. A very useful instrument for the removal of foreign bodies in the larynx is made of stiff bristles in the form of an umbrella which is introduced closed and then opened. Upon removing it the foreign body will usually be found on the upper surface of the bristles.

DR. BLAKE WHITE: A feature which has impressed me greatly is the remarkable degree of tolerance shown by the larynx for foreign bodies which have passed the epiglottic plane. Comparatively very little annoyance is caused after this point has been passed. The author has well illustrated this fact by narrating cases in which foreign bodies were detected only by the use of the laryngoscope. It is well known that oily solutions and even solutions of glycerin cause but little disturbance when injected into the bronchi. By way of emphasizing this point I recall an operation skilfully performed by Dr. S. H. Weeks of Portland, Maine, which I had the pleasure of witnessing. A boy of fifteen had inhaled a small tin-whistle which had traversed the trachea and become lodged at the bifurcation of the bronchi, where it was located by means of the X-ray. Tracheotomy was performed and several fruitless attempts made to remove it with forceps. Finally, by inverting the patient, the whistle was dislodged so that it was easily removed by long tracheal forceps. In another case a penny was expelled from the larynx of a child by the colored nurse seizing him by the feet and shaking him violently—a simple but effective method.

DR. DESSAU: I wish to emphasize the point referred to in the paper in regard to the frequency with which this accident occurs. The condition is often overlooked and the symptoms may be ascribed to croup. For example, a child was once brought to me with symptoms of croup. I examined the throat but found it normal. On the fol-

lowing day the condition was the same, but the mother mentioned the fact that before the onset of the throat-symptoms the child had been playing with a safety-pin, which had mysteriously disappeared. Upon introducing my finger into the child's throat I at once felt the point of the pin and was able to remove it without difficulty. Exploration of the larynx with the finger is of great value in these cases. I would like to ask the author if he considers it possible to employ the laryngoscope in young children, say from two to three years of age.

Dr. Frank Grauer: I once made an autopsy in a case in which death was produced by the presence of a foreign body in the air-passages. A young lad was playin Bryant Park when he suddenly dropped dead. The coronor gave a certificate giving heart failure as the cause of death. Later, however, it was decided to hold an autopsy, and it was then found that the boy had swallowed a collar-button, which had lodged in the lower part of the rima glottidis, completely closing it.

I know of another instance in which a German died suddenly in a Bowery restaurant. Autopsy showed a piece of frankfurter in the man's larynx. In still another case death was caused by sauerkraut getting into the air-passages. All these cases show that instances of sudden death should always be investigated.

Dr. Erdmann: I would like to ask Dr. Knight if he has ever heard of removing foreign bodies from the air-passages by means of suction. In discussing Rushmore's celebrated case, that of a man who inhaled a cork, Gersster referred to a method of removing foreign bodies by means of a rubber tube introduced into the larynx or bronchi and producing suction.

Dr. Knight, in closing: The great obstacle to the removal of a subglottic foreign body is spasm of the vocal bands.

In regard to suction, I have never seen any mention made of the method referred to by Dr. Erdmann. It might be feasible under certain circumstances. There is a case on record in which intubation was performed with the result that the foreign body was coughed up into the tube and removed with it.

With reference to the use of the laryngoscope in young children, I do not think it is possible to employ it satisfactorily in the majority of cases. Children are so intractable that a laryngoscopic examination should be made under anesthesia if it is to be of any service. The method of Kirstein is especially recommended for children. It is, however, very disagreeable and painful because the head is so much extended.

There seems to be a difference of opinion in regard to the inversion of children who have inhaled a foreign body. Some say that this should never be done without preliminary tracheotomy as there is danger of the foreign body becoming lodged in the rima glottidis and in this way completely shutting off the air. The majority of authorities are in favor of it, nevertheless, especially if the nature of the foreign body be known. I once saw a child who was almost moribund cough up a piece of coal as large as the tip of my finger after inversion and a good shaking.

I do not wish to claim originality in making partial section of the thyroid cartilage. I have seen this method described in some foreign medical journal. In cases of removal of neoplasms in children I am of the opinion that complete division of the thyroid should be avoided because of the difficulty in approximating the vocal bands when the wound is closed. When partial section is made we have a guide by which they may be accurately adjusted.

SCIENTIFIC JOTTINGS FROM TROPICAL COUNTRIES.

YELLOW-FEVER FOCI ON THE MEXICAN COAST—ANESTHESIA AT HIGH TEMPERATURES AND LOW BAROMETER—CALOMEL IN PNEUMONIA—THE YELLOW-FEVER BACILLUS AND MOLDS — PRESENT MORTALITY OF YELLOW FEVER.

In the *Boletin del Consejo Superior de Salubridad*, No. 5 (City of Mexico), Dr. Liceaga-who in July, 1898, in a communication to the Committee on Yellow Fever of the American Association of Public Health, declared that there were but two foci of yellow fever along the Mexican coast bathed by the waters of the Gulf of Mexico, these two foci being in the Canton of Vera Cruz and the districts situated to the north of the peninsula of Yucatan, now wishes to modify this declaration. At the time it was made the epidemic at Tampico and the cases at Campeche had not been studied sufficiently to make one sure that they had not been imported. It seems clear now, however, that the infection was not imported into these localities so that he does not feel in a position to state positively at how many points on the Mexican Gulf coast yellow fever may be endemic.

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The *Gaceta Central de Mexico*, tomo XXXV., No. 22, reports a discussion before the National Academy of Medicine, in which it was agreed by those who had been present at operations in Paris and in the Northern part of the United States, that much less chloroform or ether was required to produce anesthesia and the patients were gotten under the influence of the anesthetic sooner than in Mexico. Two factors were suggested as bringing about these differences, first, and most important, the low atmospheric pressure of the high tableland upon which Mexico is situated, and secondly, the higher average temperature of the Mexican climate, both these factors leading to a vaporization and waste of the anesthetic. [It would be interesting to know from those accustomed to anesthetize in very warm rooms and from our Southern medical men if they have noticed that climate makes a difference in the amount of the anesthetic required, and from the profession in Denver and places at correspondingly high altitudes if they have noted the influence of the low barometer in the same way.]

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In *El Monitor médico* of Lima, Peru, No. 248–9, Dr. C. M. Vivanco reports fifteen cases of pneumonia treated by small doses of calomel in which the results obtained, as regards comfort of the patient, lessening of fever, completeness and promptness of the crisis were so

satisfactory that he thinks some derivative of calomel in the circulation has a direct bactericidal action upon the pneumococcus.

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In a clinical lecture published in the same journal Sanarelli insists on the symbiotic relations between molds and his bacillus icteroides. In cultures the bacillus icteroides grows much more luxuriously in the presence of a mold and the radius of influence of the mold can be easily distinguished. In general Sanarelli thinks that it is in molds that the bacillus icteroides is sheltered during seasons of abeyance of the fever. This microbic saprophytism he considers very interesting and an exemplification of a biologic principle to which not sufficient attention has been called. It is this symbiosis or parasitism of the bacillus icteroides and molds that causes yellow fever to break out so often on shipboard where molds, because of the constant dampness are especially luxuriant. This fact explains also the affinity of yellow fever for river bottoms, for coasts, and for marshy or swampy, low-lying, moist neighborhoods generally.

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According to the *Revista Medica de S. Paolo* (Brazil, Portugese) the number of cases of yellow fever during the three months, June to September, in the Province of Santos (40,000 inhabitants) was 294. Of these 178 died, a mortality of 60.54 per cent. In the little watering-place of Guaruja where the sanitary conditions were considered reasonably good 18 cases occurred with 12 deaths. All but 7 of the cases were in foreigners, all of whom had been less than four years in the country and most of them only a few months. [An interesting comparison at once suggests itself between these statistics and the much-better results secured by the much-civilized army medical department in its experience with yellow fever during the late war.]

REVIEWS.

GLAUCOMA; ITS SYMPTOMS, VARIETIES, PATHOLOGY, AND TREATMENT. By ALEX. W. STERLING, M.D., C.M. (Edin.), D.P.H.(Lond.), Atlanta, Georgia. St. Louis: Jones H. Parker, 1898.

THIS wide and intricate subject is of the greatest interest to the ophthalmologist, whether it be from the theoretical standpoint of etiology, of the various hypotheses as to pathogenesis, or of the dynamic mechanism involved. The practical interest in the symptomatology and treatment of glaucoma, is, however, shared by many general practitioners, as the manifestations of this ocular affection may, at times, so closely resemble those of other diseases that their true origin is easily overlooked. The unfortunate result is that valuable time is wasted, or improper remedies applied. Not infrequently vision has been irreparably damaged before the real nature of the case was recognized.

As the author pertinently remarks: "This is a condition of matters which every ophthalmic surgeon of any experience has had frequently to deplore for a tentative diagnosis is usually easy without an ophthalmoscope, and all that is wanted is that the practitioner bear in mind, firstly, that there *is* such a disease as glaucoma, whose symptoms may much resemble rheumatism and neuralgia of the head and face, including the teeth and ear, sick headache, as well as some common forms of inflammation of the eyes, and that it is sometimes attended by fever and vomiting; secondly, that atropine *is not* a panacea for every ocular ill, but on the contrary is harmful in many, especially in glaucoma, and should never be used except with full understanding of its action in the disease for which it is employed, and thirdly, that he make himself acquainted with the resistance or "tension" of normal eyes when palpated as for an abscess, and remember that in glaucoma this tension is greater than normal."

The volume, whose contents were put together in great part in connection with a course of lectures to post-graduate students, is a monument of industrious research and of critical study which presents, in a concise and logical manner, the manifold data of the subject of glaucoma, the history of its investigation, and the practical management of the disease. Dr. Sterling's discussion of the various etiological theories is especially valuable, the basis of arrangement being clear and scientific. It is to be regretted that this important contribution to ophthalmology should be handicapped by inferior press work, and by indistinct half-tone reproductions of microphotographs. Many of the illustrations are practically unintelligible. The bibliography is unusually complete and well arranged, although a number of errors may be found in the list.

RADIOSCOPIE ET RADIOGRAPHIE CLINIQUES. Par le DR. L. R. REGNIER, Chef du Laboratoire d' électrothérapie et de radiographie de l'hôpital de la Charité. Paris: J. B. Baillière et Fils, 1899.

THIS little manual gives, in a succinct and interesting review, the history of experimentation with static electricity *in vacuo*, and of the successive steps by which the nature of the cathodal rays, and later that of the X-rays of Röntgen, was determined. Succeeding chapters are devoted to the means of producing these rays by the Holtz machine, or by induction-coils, the preparation of photographic plates and the fluoroscopic screen. The application of these methods to special uses of surgery and medicine is fully discussed, the subject of fractures and dislocations, foreign bodies, osseous disease, and skeletal deformity being considered at length. The work just misses being extremely valuable. The illustrations of apparatus are good, but the mechanism employed is much more complicated than need be. There are a number of radiographs, reproduced by the half-tone process, which are so indistinct as to be practically useless for purposes of demonstration. This is the more remarkable when we consider the exceedingly fine results obtained of late in this field, and the sharp pictures in recent English and American publications. The practical managment of X-ray apparatus is well presented, but the author seems to have overlooked all but French bibliography. This appears most noticeably in the chapters on foreign bodies in the cranial cavity, and on ophthalmic

radiography. Here the complicated procedures of Morize and of Contremoulins are described at length, only to conclude with an admission that the results obtained with them are neither exact nor conclusive. No mention is made of the excellent practical results obtained with much simpler methods by Williams of Boston, Clark, Hansell, De Schweintz, and Fridenberg, while the suggestion of the last-named writer to produce combination views, especially in cases of intra-ocular foreign body, by profile and "en face" radiography is credited to no one in particular, and vitiated by a number of unpractical recommendations. It may be stated, in conclusion, that nowhere in this book do we find a definition of the X-ray, or any description of its physical characteristics, form of vibration, or mode of action, which might assist our understanding of the subject.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Cloth, 490 pages, 28 illustrations, and 3 colored plates. Philadelphia and New York: Lea Brothers & Co., 1899.

This new quarterly makes undoubtedly the best, completest, and most authoritive review of advances in scientific medical literature with special reference to its practical applications that has yet been made. The editor is to be congratulated on the set of contributors secured, the contributors on their thorough, painstaking work, and the publishers on the excellent combined result that editor's, contributors', and publishers' efforts have reached.

It seems almost invidious to pick out special parts for commendation from amidst the general excellence and we mention only some of the striking discussions of practical subjects. Dr. J. Chalmers Da Costa in the section of surgery of the head, neck, and chest gives thoroughly up-to-date reviews of the practical aspect of such questions as harelip, operations for brain-tumor, and for epilepsy. The possibility of successful suture of wounds of the heart is brought out and operative technic as gathered from successful operators in heart-surgery discussed. A very encouraging conclusion as to the expectancy of life after operation for mammary cancer is drawn from the collation of current statistics, and this very satisfying phase of the new surgery properly emphasized. The surgical treatment of idiocy is discouraged on clinical grounds and the utter uselessness of craniectomy except in extremely rare cases made clear from the best surgical experience in the matter.

Dr. Clackader of Montreal, in children's diseases collects some very practical points on two subjects that will be of special interest now that the warm weather is approaching, infant feeding and the treatment of diarrheas in children. Recent analyses have modified somewhat our ideas as to the constancy in composition of mother's milk and have suggested a doubt as to lactose being the only form of sugar present in the milk. Gärtner's modification of milk "*fett milch*," as the Germans call it, is given the place in the review that the popularity it has achieved in Germany and Austria entitles it to. In the diarrheas of infancy he says: "Recent writers agree that opium should be avoided at the outset of all forms of bacterial infection until the stomach and bowels have been thoroughly emptied by purgatives and lavage. It may then be employed *in small doses only* to relieve colicky pain and secure moderate rest. It is distinctly contraindicated where pain is not severe and where the evacuations are foul-smelling and ill digested and are not watery or very frequent."

Dr. Hektoen of Chicago in the pages devoted to pathology has a very interesting review of the burning questions on which so much work is being done in recent years. The present status of pathological theories with regard to inflammation is especially clear, concise, and complete in its brevity. The fifteen pages devoted to tumors show how much is being done on this subject, sometimes considered the most definitely settled chapter of pathology. There is an excellent colored plate of the streptothrix homini, the branching micro-organisms described recently by Flexner and certain German observers as pathogenic to man. There is a very striking illustration in colors, from Craig, of branching forms of the tubercle bacillus as found in the sputum and some suggestive material in the text as to the important question whether all of these branching micro-organisms have certain natural affinities that should make us conclude that in the microbic causes of the infectious granulomata we are dealing with a family of micro organisms rather than distinct species.

In the chapter on the infectious fevers Thayer has a most valuable review of the latest practical conclusions as to the treatment of typhoid fever, especially as to the limitations of the bath treatment. Children, the old, the feeble, and those whose fever causes no symptoms are questionable subjects for regular tub treatment unless there are special indications. Under malaria there is an excellent review of the use of quinin in malaria with no halting half-hearted commendation of its free administration whenever there are unmistakable symptoms of active malaria no matter what complications may be present. There is a very judicious discussion of the significance and treatment of such complications as malarial hemoglobinuria and malarial nephritis, and a good review of the recent work on the estivo-autumnal type of malaria which has of late acquired so much practical interest for Americans.

The Sexual Instinct; Its Uses and Dangers as Affecting Heredity and Morals. Essentials to the welfare of the individual and the future of the race. By James Foster Scott, B.A. (Yale), M.D., C.M. (Edinburgh). Late Obstetrician to Columbia Hospital for Women and Lying-in Asylum, Washington, D. C. New York: E. B. Treat & Co., 1899.

The preface of this book begins with the quotation from Descartes, "If it is possible to perfect mankind the means of doing so will be found in the medical sciences."

With an aim as high as is thus implied it is needless to say that the author is thoroughly justified in treating perfectly plainly a set of subjects that are unfortunately too much tabooed and as a consequence too little understood in our day. The book, intended, as the author says, primarily for laymen, not for women and boys, contains a good deal of plain talk, which, however, we cannot but think will be always wholesome in its effect.

Some of the chapters, as "Woman and the Unmanliness of Degrading Her," "Prostitution and the Influences That Lead to It," and "Criminal Abortion," form excellent practical résumés of elusively detailed subjects not easy of condensed treatment.

We are inclined to think that the tendency to preach in the book is a little too pronounced. The facts of the matter are so striking that we consider their simple presentation more forcible than any rhetorical argument and additions of this kind weaken the effect by their apparent approach to special pleading.

ACROMEGALY. An essay to which was awarded the Boylston prize of Harvard University, for the year 1898. By GUY HINSDALE, A.M., M.D. Reprinted from *Medicine*, Detroit, 1898.

SINCE Collins' critical digest of the literature of acromegaly appeared in 1893, no work of any considerable size on this most interesting condition has been published in English, although both the home and foreign literature has been very rich in reprints of cases and in studies of the disease; hence Hinsdale s work is particularly acceptable. It reviews, in a very thorough manner, all the literature on the subject which had been given out up to the date of its publication. The style in which the paper is written is especially commendable, and the arrangement and indexing is logical and convenient. The illustrations are chosen with discrimination and are fairly well reproduced: unfortunately, however, the plates give but few instances of the microscopic pathology of the disease. The greater number of the plates have been previously published and are now thoroughly familiar to those conversant with the literature of the disease. No new cases are reported, but the author includes an excellent study of the skeleton of a giant, probably an acromegalic.

While Hinsdale has very carefully reviewed the literature of acromegaly, he has presented but very little original material and no doubt the weakest points of the paper are the discussions of the etiology and pathogenesis of the malady. Nothing new or encouraging in the treatment of acromegaly is advanced. The long and complete bibliography which closes the paper will be found of great service to those who desire to become thoroughly familiar with the disease.

A PRACTICAL HANDBOOK ON THE MUSCULAR ANOMALIES OF THE EYE By HOWARD F. HANSELL, A. M., M.D., Clinical Professor of Ophthalmology in the Jefferson Medical College; Professor of Diseases of the Eye in the Philadelphia Polyclinic, and WENDELL REBER, M.D., Instructor in Ophthalmology in the Philadelphia Polyclinic. Philadelphia: P. Blakiston's, Son & Co., 1899.

THE subject-matter of this little treatise is an elaboration of a short series of lectures delivered in successive winter courses at the Philadelphia Polyclinic, and designed to present to beginners in ophthalmic work the principal facts in the diagnosis and treatment of abnormal states of the eye-muscles. An introductory chapter presents concisely yet fully the important facts necessary to thorough understanding of the structure and innervation of the ocular muscles, their relations to the orbit and to the globe, and their dynamics. This is followed by a consideration of structural anomalies and of the functional derangements, the numerous "phorias" and "tropias." The functional tests for these conditions are described with the aid of numerous illustrations in the text.

Concluding chapters deal with the operations of tenotomy and advancement in a rather superficial way; the mechanical principles involved, their bearing on muscular dynamics, and the question of "dosage," of the operative effect, are practically neglected. In the after-treatment of tenotomies the use of a conjunctival suture is said to be "an unnecessary precaution for a skilful operator," and "a bandage is seldom useful; on the contrary, it may be positively harmful, in that, in the exclusion of binocular fixation, the important factor to success, namely, the unconscious effort at fusion, is prohibited." These statements will hardly go unchallenged. While following quite closely the classification and views of Stevens in regard to functional deviations, the authors vigorously reject his claims and those of Ranney as to the causation of reflex neurosis by muscular anomaly.

It may be well to repeat that "such cases are exceptional in even the largest experience, and the theory that a considerable proportion of the insane, of the epileptic, of the choreic, owe their disease wholly to the existence of either a refractive error or a consequent muscular anomaly is dangerous and unsound."

THERAPEUTIC HINTS.

For Eczema of the External Auditory Canal.—Clean the ear, not with soap and water or other fluids which are generally deleterious, but with the ointment given below, using cotton on an applicator. Then apply the same ointment freely to the walls of the canal. Attention to the general health is of course indicated.

℞ Ac. carbolici . . . . gr. xx
Ung. zinci oxidi . . . . ℥ i.

M. Sig. External use.

For Acute Nephritis During Mumps. — Irrigate the colon with hot saline solution to induce activity of the kidneys and give the following medicine by mouth:

℞ Hydrarg. bichlor. . . . gr. i–iii
Potassii iodi . . . . gr. xx
Syr. simpl. . . . . ℥ i
Inf. gentianæ . . . . ℥ vii.

M. Sig. One teaspoonful three times a day.—*Kerley.*

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ORIGINAL ARTICLES.

CHRONIC NEPHRITIS AFFECTING A MOVABLE KIDNEY AS AN INDICATION FOR NEPHROPEXY.

BY GEORGE M. EDEBOHLS, M.D.,
OF NEW YORK;
PROFESSOR OF DISEASES OF WOMEN IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL; GYNECOLOGIST TO ST. FRANCIS HOSPITAL.

THE voluminous literature of movable kidney is practically silent upon the subject matter indicated in the title of this paper. The few and scattered words devoted to the matter serve simply to give expression to the sentiment that in the presence of chronic nephritis nephropexy for movable kidney is to be avoided in common with all other operations not called for as a vital indication. In quite an extensive search of the literature I have been unable to find the record of a single case of nephropexy for movable kidney performed upon a patient suffering at the time of operation from either acute or chronic nephritis.

While recently reviewing the clinical records of 154 nephropexies performed by myself upon 118 patients during the past nine years, with a view to ascertaining the final results, I found that I had anchored the kidney or kidneys of six patients, who, at the time of operation and for a greater or less period preceding were known to have had chronic nephritis. In view of the paucity, or rather non-existence of similar records, I may be pardoned a little prolixity. I will premise by stating, and wish to emphasize the point, that in none of the five first cases was the nephropexy undertaken with any idea of favorably influencing the chronic nephritis known to exist; the indication for operation was given simply by the existence, in an aggravated degree, of the usual symptoms due to *mobility* of the kidney or kidneys. The effects of the nephropexy upon the chronic renal inflammation, whatever they might prove to be, were simply hazarded in view of the necessity of relieving the patient of a number of intolerable symptoms. The fortunate effects in three of these five cases influenced me to regard the chronic nephritis of the sixth as a new indication, additional to other well recognized and admitted existing indications, of nephropexy for movable kidney. I have recently seen two further cases of chronic nephritis associated with movable kidney, and have advised nephropexy in the hope of favorably influencing the kidney inflammation; both patients are having operation under consideration.

CASE I.—Miss A. B., eighteen years of age, came under my care in November, 1891, suffering from chronic metritis and anteflexion, for which curettage and amputation of the cervix were performed in December, 1891. Cysts of both ovaries subsequently developed and grew to a considerable size during the first half of 1892. On June 28, 1892, I performed bilateral ovariotomy and ventral fixation of the uterus. Examination of urine preceding these operations showed diffuse chronic nephritis. Soon after the removal of the ovarian tumors the right kidney became movable, producing serious derangement of health, the chronic nephritis at the same time persisting. Right nephropexy was performed on November 29, 1892. At operation the structural changes in the right kidney due to chronic inflammation were plainly recognizable. Primary union. Two months after nephropexy the albumin and casts disappeared permanently from the urine. The left kidney subsequently became movable but, causing no symptoms, did not and does not to this day call for nephropexy. The patient has now been under constant observation for a period of more than six years, during all of which time she has enjoyed perfect health. The right kidney remains securely anchored and the urine free from albumin and casts.

CASE II.—Mrs. G. H., aged thirty-nine years, came under my care in March, 1893. The conditions recorded as found on examination were: Right kidney movable 12 cm.; left kidney movable 10 cm.; endometritis; salpingo oophoritis sinistra; nephritis diffusa chronica; hysteria. Bilateral nephropexy, March 10, 1893. My records do not contain any note of the appearance and feel of the kidneys at operation. The wilful and unmanageable patient repeatedly sat up in bed and removed the dressings during the first days following operation with resultant infection of both wounds, necessitating healing by granulation The nephritis still persisted on her discharge from hospital six weeks after operation. A year and a half after operation I learned from Dr. Ernest Palmer of Brooklyn that the right kidney was again movable, the left remaining firmly anchored. No information as to the presence or absence of nephritis.

CASE III.—Mrs. M. M., aged twenty-eight years, was seen by me in consultation with her physician, Dr. R. G. Wiener, in May, 1893. She had a movable large right kidney, chronic interstitial nephritis, endometritis, and bilateral salpingo-oophoritis. The nephritis to Dr. Wiener's personal knowledge was of

several years' standing. The symptoms due to the mobility of the right kidney were so urgent that both Dr. Wiener and his patient, the latter also with a full knowledge of her nephritis, desired nephropexy. The operation was performed at the home of the patient, with the kind assistance of Dr. Wiener, on May 11, 1893. The kidney was found extensively diseased, its surface being nodular and the capsule irregularly thickened and very adherent as a result of inflammatory changes. On the posterior aspect of the kidney, near its lower pole, squarely in the center of that portion of the kidney we depended upon for adhesion to the lumbar incision, a cyst nearly four centimeters in diameter was encountered. The contents of the cyst, a turbid serum, were evacuated by incision through the kidney substance, the wound of the kidney being closed by running catgut suture. The kidney was then anchored in the usual way.

The wound healed by primary union throughout. Dr. Wiener informs me that all the symptoms due to the movable kidney disappeared for a period of eight to ten months when the kidney again became as movable as ever with a return of all her former symptoms. The nephritis remains uninfluenced for better or for worse.

Case IV.—Miss L. G., aged twenty-five years, was referred to me by Dr. B. R. Morrow in January, 1896. She presented movable right and left kidneys causing symptoms, chronic appendicitis, bilateral oophoritis, and chronic nephritis, although the duration of the latter could not be ascertained. Bilateral nephropexy, January 11, 1896, on which occasion the left kidney was found to be the seat of chronic interstitial nephritis, the right kidney being healthy. Primary union of both wounds. A pain persisting after operation in the region of the left kidney disappeared after inversion of the vermiform appendix and breaking up of ovarian adhesions on May 31, 1898. Both albumin and casts permanently disappeared from the urine some four months after bilateral nephropexy. It is now two years since operation and the patient remains well and free from nephritis. Both kidneys securely anchored.

Case V.—Mrs. M. F., aged forty-two years, came under my care in April, 1897, with movable right kidney, chronic metritis, chronic pelviperitonitis, chronic appendicitis, and chronic interstitial nephritis. She had previously had several operations for pelvic abscess by various operators. The symptoms due to *mobility* of the right kidney were so distressing as to lead me to advise nephropexy in spite of the fact that she was known to have had chronic nephritis for six years past and had been under treatment for that condition constantly during all that time. On April 1, 1897, at the home of the patient, I performed curettage of the uterus, amputation of the cervix, and right nephropexy, the kidney at operation being found the seat of chronic interstitial nephritis. Primary union, uneventful convalescence, and marked and progressive improvement of general health followed operation.

Oft-repeated careful chemical and microscopical examinations of the urine were made before and after operation by Professor H. T. Brooks, who, one year after operation, pronounced the nephritis as practically cured. During this year she received absolutely no treatment for the nephritis, so the gratifying result may fairly be ascribed solely to the operation. The patient remains well with well-anchored right kidney and with urine free from albumin and casts at the present writing, nearly two years after operation.

Case VI.—Miss S. O., aged twenty years, came under observation in January, 1898, suffering from mobility of both kidneys, endometritis, and interstitial nephritis. The duration of the latter could not be ascertained. In view of the favorable results obtained in the cases already cited bilateral nephropexy was advised, both to relieve the symptoms due to mobility of the kidney, and with the hope of favorably influencing the nephritis. Both kidneys were anchored and the uterus curetted, January 10, 1898.

At operation the right kidney was found perfectly healthy. The left kidney on the other hand was large, irregular in shape, hard from increase of connective tissue, and with firmly adherent capsule proper; in short it presented the changes characteristic of chronic interstitial nephritis. Primary union of both wounds, uneventful convalescence, and rapid disappearance of every former symptom. Frequent examinations of the urine were made by Professor H. T. Brooks and by Dr. A. Strong, who kindly assumed the treatment of patient after operation. Albumin and casts disappeared permanently from the urine one month after operation. One year after operation patient perfectly well, both kidneys securely anchored and urine free from albumin and casts.

The fact that stands out strikingly in the above record of clinical experience is the disappearance of all symptoms and signs of chronic nephritis in four out of six patients after and, in all human probability, as a consequence of nephropexy. For, be it recalled, none of the patients subsequently to nephropexy received any treatment whatsoever directed to the nephritis. In one patient with extensive interstitial and cystic changes in the anchored kidney the latter became detached eight to ten months after operation and the nephritis persists. The redetachment of the kidney in this case was probably due to the advanced cystic degeneration. One patient finally has been lost track of after bilateral nephropexy and nothing is known respecting the continuance of her nephritis except that it still persisted six weeks after operation.

An important clinical fact indicated by the four successful cases is that chronic nephritis is probably unilateral much oftener than is usually suspected. In two of the four cases all the symptoms and signs of chronic nephritis disappeared after fixation of a

movable right kidney proved at operation to be the seat of chronic interstitial changes. The left kidney in these cases must have been healthy, otherwise the urine would have continued to furnish albumin and casts even after convalescence of the right kidney. In each of the other two patients upon whom bilateral nephropexy was performed the nephritis was found unilateral, affecting the right kidney in one and the left in the other. In all of these four cases the chronic nephritis was unilateral, *i.e.*, it affected only one organ, a fact pregnant with hope and comfort to sufferers from chronic nephritis.

Judging from the evidence afforded by frequent examinations of the urine the chronic nephritis in each of the four cases disappeared in two months, four months, one year, and one month respectively after nephropexy. The fact of the disappearance of chronic nephritis without further treatment after nephropexy amounts to almost proof positive that the displacement of the kidney was the original cause of the nephritis. My own not inconsiderable experience with movable kidney has furnished numerous examples of congestion of the kidney, as evidenced by traces of albumin and hyalin casts in the urine accompanying this condition. This congestion of the kidney, due to displacement with consequent distortion and greater or less obstruction of the renal vessels, and especially of the renal vein, is as good as uniformly relieved by a successful nephropexy. If displacement of the kidney gives rise to congestion why may not he latter condition occasionally progress to inflammation? And if nephropexy of a movable kidney will do away with renal congestion why may not the beneficial effects of the operation, occasionally at least, assert themselves even when the circulatory disturbances have already progressed so far and been so long maintained as to result in the changes characteristic of chronic nephritis?

That a well-anchored kidney is in a better position and condition to maintain or regain its organic integrity, as the case may be, than a movable kidney, is patent from the evidence already adduced. An added proof is afforded by the investigations of Wolff into the subsequent histories of fourteen cases of nephropexy performed by E. Rose, and corroborated by my own observations upon a much larger number of patients upon whom I have performed nephropexy, unilateral or bilateral. In not one of Rose's cases and in none of my own, except the cases of chronic nephritis existing at operation detailed in this paper, could any evidences of renal changes as evidenced by the presence of albumin or casts in the urine be found at the last examination, made from six months to fourteen years after operation.

The various experiences and observations recorded in this paper, will, if corroborated in larger numbers, necessitate a modification of current opinions on the etiology of chronic nephritis. Mobility of the kidney will probably be found as playing a *very* important part in the causation of chronic nephritis. Just as probably the therapy of chronic nephritis, in so far as the latter be found to be dependent upon and connected with movable kidney, will become surgical. My own favorable experience warrants me for the present in regarding chronic nephritis affecting a movable kidney as an important indication for nephropexy.

THE GALVANOCAUSTIC RADICAL TREATMENT OF HYPERTROPHY OF THE PROSTATE.

By F. KREISSL, M.D.,
of Chicago, Ill.;
Professor of Genito-Urinary Surgery in the Chicago Clinical School.

Bottini's method and Freudenberg's modifications of the galvanocaustic incision have, judging from the increasing favorable reports, apparently solved the problem of successfully dealing with the so-called senile enlargement of the prostate, a problem which has worried surgeons for more than a century, which has led to the most heroic and yet not satisfactory measures, and which has produced the strangest, most fantastic, and yet most useless apparatus without giving the sufferer only the slightest and often but temporary relief. It is not the premature enthusiasm closely following upon one successful operation which dictates these words, nor is it the outgrowth of a mere theoretical speculation reached by a consideration of the instrument and a description of its use in this connection. The following opinion is formed from the results of my own experience, together with the reports of competent men, and by a comparison of Bottini's method with other well-known procedures having a similar purpose

Bottini's method is not of very recent date. He described it, and reported cases in *Langenbeck's Archiv* in 1877, but at that time there were mechanical reasons, such as poor galvanocaustic batteries, etc., that prevented the construction of a more perfect instrument. Several fatal cases, some independent of the operation, and perhaps also the disinclination of the German and French surgeons to adopt or even try a foreign discovery, helped to shelve the method before it was given a chance to show its merits. Moreover, Guyon's theory of the etiology of the hypertrophy of the prostate predominated in Europe, and could not be reconciled with Bottini's method of a cure by means of a division

of the prostate lobes. It is impossible, indeed, to understand how and why such a division should remove arteriosclerosis in the gland and the bladder wall, which, according to Guyon, is the supposed cause of obstruction and retention in prostatitics. Even so liberal-minded a surgeon as Sir Henry Thompson, always ready to accept new and promising methods regardless where they come from, said under the strong influence of Guyon's theory some fifteen years ago: "There is no reason to believe that an incision or resection in cases of ordinary hypertrophy of the prostate can restitute somebody's functions of voluntary urination after it has once been lost. On the other hand, we must consider such attempts as extremely dangerous when a considerable enlargement of the gland exists, and it is highly improbable that any operation, even if it remove the obstruction, can restitute the normal function of the bladder and free the patient from catheter life. And I undertake to say that my friend Professor Bottini in Pavia, on whom I but recently called, is of my opinion, no matter how strong a defender of the galvanocaustic incision he may be. To be sure, patients were operated upon for retention caused by temporary though chronic local disturbances, and the results announced as successful operations of hypertrophy of the prostate, but the age of the patients in several instances is sufficient proof to contradict the statement, because they had not reached that age in which hypertrophy in the gland appears."

I do not know if Sir Henry Thompson has changed his views on this subject since he wrote these words. I do not know if he still believes with Sir Henry Brodie that "the prostate grows when the hair turns gray and starts coming out," but I do know that prostatic enlargement and urine retention cannot be considered a disease peculiar to old men only, although I admit that it may be found much more frequently past Thompson's age-limit of fifty-six years than before. I have met these symptoms time and again in patients at the beginning of the fortieth year, and in cases in which the most thorough examination did not allow of another diagnosis than hypertrophy of the prostate. In these cases there was no evidence of sclerosis, which is held as responsible and cited against any attempt at surgical interference.

In consideration of these facts and the results of Bottini's operation, and without prejudice from deep-rooted theories, one cannot help but agree that galvanocaustic incision is apparently the operation likely to relieve radically, and perhaps permanently, the most distressing symptoms of prostatic enlargement, sclerosis or no sclerosis. Naturally we will find in advanced age an enlarged gland quite often accompanied by sclerosis. Through the cystoscope we see the enlarged blood-vessels in the bladder wall, and on the prostate we often encounter hemorrhages, the blood flowing back into the viscus, clots in the vesical neck acting as obstructions. But this condition cannot be recognized as the cause of all the symptoms in prostatics. I have seen such cases, and could not find a drop of residual urine after the act of micturition, and yet the calls to urinate come as often and are as urgent as in true prostatic obstruction associated with retention. But this frequent micturition is caused by the sclerotic and enlarged vessels, similar to those which we see in the female bladder and urethra, where we simply pronounce them to be hemorrhoids.

It cannot be the purpose of this paper to discuss the etiology or pathology of the hypertrophy of the prostate, but I consider it important to dwell on this subject because it is necessary to point out why resection and excision do not always give satisfactory results, while Bottini's operation is gaining ground daily. A partially or totally enlarged prostate does not necessarily cause retention, nor does retention constitute the pathologic picture of hypertrophy or sclerosis. But enlargement of the gland, residual urine, and in most cases elongation of the posterior urethra are significant factors, provided other diseases are excluded or exist as accessory only. The obstruction must be regarded as the primary cause of all the symptoms, and it is but reasonable to consider its removal in a way which does not destroy the functions of the sphincter apparatus. But Bottini's operation is a typical one, which requires a correct diagnosis and also a close acquaintance with the use of instruments in the bladder and urethra, without which failures and even disagreeable or fatal complications are unavoidable. It is not sufficient to establish the fact of an existing obstruction and to incise the prostate desultorily, and it is not less erroneous to act according to a set rule, incising the median lobe, one lateral lobe, and the anterior surface of the gland. In case of enlargement we must determine its character. True, the hypertrophied prostate is voluminous, but many large prostates are not hypertrophied. One should not confuse hypertrophy, which is a disease, with prostatomegaly, which is only a symptom accompanying prostatic edema, congestion in old people, and hypersecretion with glandular stagnation. Prostatomegaly will also be found in chronic prostatitis and tumors of the gland, but with the exception of the last condition mentioned it hardly requires surgical interference. We have to determine if this enlargement is a general and uniform one, or if

only parts of the gland are involved, and which parts, and if the projecting nodules are confined to the prostatic urethra or to the viscus, or to both. We have to search for strictures in the urethra, diverticula, concrements, and tumors in the bladder cavum and chronic inflammatory conditions outside of, but close to the bladder-wall. The presence of residual urine and its amount on various occasions has to be investigated, and remote causes of retention, like paresis and paralysis of the bladder excluded. All these conditions can be revealed or excluded by an exhaustive examination, including palpation, the use of probe-pointed bougies, and whenever the local configuration permits, by the urethro- and cystoscopes. From the latter I have gained most valuable information regarding the size and location of projections into the viscus, and the unmistakable direction at which point the incision will have to strike. Another point of importance is the establishment of the elongation of the posterior urethra, which, with very few exceptions, will be the case in prostatitics, and, for instance, will help avoiding mistakes in diagnosticating hypertrophy of a normal gland, which does not show a demarcating upper margin on account of a concentric hypertrophied bladder.

The technic of the operation may be described in a few words. It is performed without chloroform, cocain only being applied as a local anesthetic. The bladder is emptied by a catheter before the introduction of the incisor, which should be tested previously in regard to the temperature necessary to produce a slight degree of white heat in the blade. This amount is registered by the amperemeter, and can be kept up while the blade is beyond the control of the eye. After having introduced the instrument very much like an ordinary steel sound, so far that the beak is well in the bladder, one turns it to the lobe which it is wished to incise, and at the same time brings the cooling apparatus into action. This done, it is necessary to pull the instrument downward until the point of the beak is well hooked to the upper margin of the gland, and to close the current. From ten to fifteen seconds are allowed to pass, which time is necessary to heat the blade up to the temperature desired, and then the incision is made by slowly turning the screw to the right. This, as one will see, on the downward motion of the outer piston, brings the blade out of the protecting groove and into the gland. The graduated scale on the piston allows an exact estimate to be made of the length of the incision. Having obtained this, one must reverse the direction of the screw until satisfied that the blade is back again in the groove, then interrupt the current, and remove the instrument. If more than one incision is desired the instrument may be turned toward the lobe it is wished to incise, and the procedure repeated in exactly the same way devised for the first incision. The operation requires from two to five minutes, after which there is very little, if any, complaint on the part of the patient—a slight burning sensation during micturition, and slightly bloody urine during the first twenty-four or forty-eight hours. In two cases I have satisfactorily employed a ten-per-cent. antipyrin solution instead of cocain as a local anesthetic, because at the preceding cystoscopic inspection I found ulcers in the trigonum, in which event I consider cocain absorption very likely. In a passing way I wish to say that the application of antipyrin as a local anesthetic in the bladder and urethra is not of recent date. It was used in Vienna, Paris, and Budapest for litholapaxy and internal urethrotomy some years ago.

I do not consider it of paramount importance to fill the bladder with a small amount of fluid before the operation, as advised by Freudenberg and Viertel. It only makes the use of much more powerful and voluminous batteries necessary. A slight degree of white heat will be sufficient for operating when the bladder is empty, but when the bladder is filled with water the platinum burner requires much more heat to work effectively than ordinary portable batteries can produce. The danger of perforating the empty bladder by hooking a transverse vesical fold with the point of the instrument, as happened to Freudenberg, seems very remote, and was, perhaps, caused by working too high up in the viscus. If one thinks it safer to operate while the bladder is distended, he may follow the advice of Lewis and inflate the viscus with air, which does not interfere with the platinum burner, and, it is claimed, renders the operation absolutely painless. Thompson's objection that working in the dark with a cautery-knife is rather dangerous cannot stand the test better than the same scruples entertained in connection with litholapaxy or curetting the uterus. It is more a question of skill and experience than anything else, as an ordinary pin might become a deadly weapon in a clumsy hand.

No uniform rule for the after-treatment can be given. Some operators counsel the use of the retention catheter, some advise daily catheterization with or without irrigation, and others leave the bladder altogether alone. I should say all this depends on what the moment requires. I do not favor daily and repeated catheterization, which certainly interferes with the normal healing process and causes profuse hemorrhages. When considerable retention after the incision exists a catheter

should be left in the urethra for a while, establishing free drainage of the bladder. In cases in which the urine contains micro-organisms, urotropin in small doses will give much satisfaction until the surgeon can, without danger of hemorrhage, start with local treatment for lesions in the bladder.

The efficiency of the Bottini treatment may be partly explained by the fact that the actual cautery in all organs and tumors supplied with very much connective tissue displays not only a limited, but also a remote effect, or, in short, every cauterized spot forms a shrinking center for the surrounding tissues. The cautery, therefore, will reconstruct the normal caliber of the prostatic urethra, while in cases in which the projections form a bar between the urethra and the trigonum pit or bas-fond, it will bring the bottom of the latter to the level of the vesical outlet into the urethra, or, so to speak, artificially extend the urethra into the pit. In by far the majority of cases the operation will have to answer both purposes. The bar is mostly built up by the median lobe while the projections narrowing the prostatic urethra originate in the lateral lobes, and from this we will understand that the incisions will have to be made according to the location of the obstruction, and not in every case in "the same three spots." I cannot too strongly advise against the incision of the anterior part of the prostate, which is not only painful and useless, but directly dangerous. It is just the place where we have to expect the most profuse hemorrhages from the paraprostatic venous plexus, and, moreover, this part of the gland, as we all know, never plays any active part in the obstruction.

In concluding I wish to report five cases in which I have successfully operated, stating that the patients presented unmistakable subjective and objective symptoms of prostatic hypertrophy.

CASE I.—Patient fifty-six years old. Uniform enlargement of the prostate; length of urethra from meatus to the viscus 10½ inches; length of posterior urethra 4¾ inches. Stricture in membranous urethra of the size 16 of the French scale. Urinated with great pain about every fifteen minutes, from ten drops to half an ounce at a time. Residual urine from ten to twelve ounces. First symptoms about seven years ago, gradually getting worse. Electrolytic treatment of stricture in January, 1898; afterward 26 French steel sound could be passed into the bladder and calls to urinate came only every two or three hours in the daytime, while tenesmus during the night remained as bad as before

Bottini's operation in April, 1898; three incisions, one into each lobe, three centimeters in length. Six weeks after the operation patient was presented before the Chicago Medical Society. At that time the length of the posterior urethra was 2¾ inches; patient could hold his urine for six hours during the day and urinated once during the night. Urination free, in full streams; passed eight to ten ounces; residual urine one-quarter to one-half an ounce. Saw patient five months after operation; had no residual urine and felt perfectly well.

CASE II.—Patient fifty-two years old; almost identical symptoms as in Case 1. Length of entire urethra 9½ inches; posterior urethra 3½ inches; introduction of steel sound impossible on account of projecting hard nodule of right lobe; median lobe enlarged; left lobe much smaller than the right. Cystitis. Urethra had to be prepared for a week before it became passable for Bottini's instrument.

Operation June 15, 1898. Three weeks later one ounce of residual urine; cystitis much better; urination every two hours in daytime, every three hours during night; eight weeks after the operation, every four hours during the day and once during the night; no residual urine. Cystoscopic examination showed mild catarrh of the trigonum, which under local treatment was cured within six weeks.

CASE III —Patient fifty-four years old. Complete retention for nearly two weeks; had had a similar attack about eight years before (then only forty-six years old) from which time frequent and unsatisfactory urination remained and grew worse from year to year. Prostate the size of a large orange; the right and median lobes mostly involved; length of urethra 12 inches (for which reason cystoscopic examination was impossible). Stone searcher did not disclose presence of concretions. In spite of regular catheterization for eight days condition remained unchanged.

Bottini's operation, July 23, 1898. The next day voluntary urination set in; about one half an ounce expelled every fifteen to twenty minutes; five days afterward continence for two hours, amount of urine passed increased accordingly. Five weeks after the operation continence for three hours during the night and two hours during the daytime; residual urine one-half of one ounce; urination free, painless, and satisfactory. Strange to say about eight weeks after the operation the patient got worse; passed bloody urine which, upon microscopic examination did not show evidence of a tumor, and by rectal palpation the left lobe was found considerably enlarged and rather painful. Several days afterward, while passing urine with great pain in my presence he expelled a very small phosphatic concrement which was followed by similar ones during the next four weeks. As his condition became unbearable and a stone could not be detected by the steel sound, and as cystoscopic examination was impracticable I advised a suprapubic cystotomy, thinking of the presence of an encysted or sacculated stone and perhaps a tumor of the left lobe and explained my views to the patient, who was ready to submit to any operation that promised relief.

Suprapubic operation performed November 30, 1898. Trabecular bladder, and between the trabeculæ, covered by secondary tissue, fourteen phos-

phatic concrements were found, each the size of a small bean. Left prostate lobe ulcerated in its vesical portion; curetted and cauterized. Lips of bladder-wound sutured to the skin. Patient had an uneventful recovery; fistula closed five weeks after operation. About one week afterward recurrence of painful micturition and bloody urine, apparently caused by malignant disease of the left lobe. Continence hour and a half in daytime, about three hours at night; one-half to one ounce residual urine.

Case IV.—Patient seventy-four years old. Symptoms of obstruction and retention for two years. Length of urethra 7¼ inches; length of anterior urethra 5 inches; residual urine from 1 to 5½ ounces at various times; urination every two hours in daytime and every half hour during the night. Digital examination did not ascertain enlargement, but cystoscopic examination revealed prostatic bar of median lobe and a few small ulcers at bas-fond.

Bottini's operation under antipyrin anesthesia, October 12, 1898. One incision two centimeters long through the median lobe; tenesmus for several days, then intervals between urination increasing until continence for four hours day and night set in toward the end of the third week. Under local treatment of ulcers in bladder for three weeks cystitis was cured. Saw patient in the early part of January, 1899, when he had but a few drops of residual urine.

Case V.—Patient sixty-four years old. Symptoms of prostatic obstruction appeared first about nine years ago. About six years ago complete retention for twenty-four hours. Saw the patient first about four months ago. At that time he had cystitis and alkaline urine; tenesmus day and night; temperature 103° F.; bilateral epididymitis. He had been in the habit of catheterizing himself during the previous two years. The calls to urinate came as often as ten to fourteen times during the night and about every hour during the day. Patient could only press out a few drops of urine at a time. Residual urine measured on various occasions between 5 and 8 ounces. Upon rectal examination the right and the median lobe were found considerably enlarged and hard. Entire length of urethra 10 inches; posterior urethra 3½ inches. Cystoscopic examination corroborated the results of rectal palpation and disclosed two gonorrheal ulcers the size of a small bean in the trigonum where the latter was elevated by the enlarged right lobe.

Regular catheterizing and irrigations of the bladder gave some relief but otherwise condition remained unchanged. Bottini's operation was performed December 28, 1898. On account of ulcers in the trigonum I used antipyrin as a local anesthetic. Two incisions were made, each three centimeters in length, one in the right lobe and one in the median lobe. Left soft catheter in bladder during the first three days. Eight days after the operation patient had continence for about three hours; residual urine half an ounce. Five weeks after the operation continence for six hours day and night; residual urine a few drops. Cystitis under local treatment improved rapidly. Length of posterior urethra 2½ inches.

Quite a number of other operations which I have since performed on patients with equally good results are of too recent date to be reported as cures. Judging by the present condition of the patients the final result will be satisfactory.

When I said that Bottini's operation apparently solves the problem of successfully dealing with hypertrophy of the prostate I did not mean that it is the only operation or treatment for the disease in question, but in reviewing the other methods we will gradually understand the value of a method which is not attended by the dangers of the others and yet brings about normal or almost normal conditions and functions in the distorted and obstructed urinary passage, results not usually following the others. Suprapubic puncture or perineal drainage gives but momentary relief from embarrassment. Prostatectomy is expedient in pediculated lobes only, and dangerous because it requires general anesthesia and confines the patient to bed for many days and weeks, enhancing the risk of affections of a deleterious character of the heart, lungs, and kidneys.

Castration has its advantages in a limited number of cases in which the gland appears diffusely enlarged and soft but in which very little or no projections in the viscus are found. But castration is a mutilating operation and very uncertain in its results, and it seems to me that Bottini's operation can accomplish the same result without the obnoxious features of the first. The report on the effect of vasectomy are so contradictory and often so discouraging that I have not yet felt tempted to try it, but it will certainly not help in removing projections from the urethra or the vesical neck. The method is not past the experimental stage, while Bottini's operation has conquered its well-deserved place, and as I hope, will keep its ground. It must be considered the mildest surgical act in hypertrophy of the prostate and should be tried first. There will always be time to castrate or to perform prostatectomy provided galvanocaustic incision has failed, while, when the latter has failed and the patient is still in the land of the living he will hardly approve of your belated suggestion of Bottini's operation.

THE DIFFERENTIAL DIAGNOSIS OF PELVIC AND ABDOMINAL DISEASES IN THE FEMALE.

By PAUL F. MUNDE, M.D.,
of New York;
Gynecologist to Mt. Sinai Hospital.

(Concluded from page 453.)

The distinction between *inflammatory masses in the peritoneal cavity* (salpingo-oophoritis, pus-tube,

pus ovary, with usual enveloping exudate) and *exudates or blood-coagula in the pelvic cellular tissue* (pelvic cellulitis or abscess, hematoma) can usually be made by remembering, first, that where there is no peritoneum there can be no peritonitis or no intraperitoneal body; hence, an exudate in the rectovaginal septum reaching almost down to the perineum cannot be in Douglas' pouch and must be extraperitoneal, as also an exudate occupying the vesicovaginal septum, or firmly attached to the lateral wall of the pelvis. Such an extraperitoneal exudate is always immovable; it cannot be otherwise, and it is usually situated to either side of the cervix or, if in the median line in front or behind, extends below the level of the external os. No large extraperitoneal exudate is ever found directly behind the uterus, for there is very little cellular tissue there and Douglas' pouch extends to within one inch of the tip of the cervix.

Intraperitoneal exudates, inclosing the ovary and tube on one or both sides, seldom reach low into the pelvic cavity, scarcely ever to the level of the external os; they are lateral and slightly movable up and down on bimanual pressure, but still evidently attached, for the whole vaginal vault and broad ligament move with the mass. If in the median line the mass of exudate is immovable, and the uterus pushed forward; if lateral, the uterus is dislocated to the opposite side. In intraperitoneal exudates, unilateral or bilateral, the uterus is always slightly movable up and down, but not laterally. In extraperitoneal exudates (cellulitis) the uterus is always as immovable in the position to which it has been pushed by the exudate, as the exudate itself. This is an important distinction between extraperitoneal and intraperitoneal inflammatory exudations.

An intraperitoneal exudate may be so large as to become adherent to the parietal peritoneum of the abdominal wall of the affected side, usually at a point between the iliac fossa and the middle of the subumbilical line. An extraperitoneal exudate may, on the other hand, force itself up between visceral peritoneum and submuscular fascia so as to infiltrate a large part of the lateral abdominal wall, and then it may be exceedingly difficult on external examination to decide whether the hard mass felt through the abdominal skin is extra or intraperitoneal. A vaginal examination will usually settle the question, for the cellular exudate extends deeper into the pelvic cavity and hugs the pelvic wall, while the intraperitoneal mass is very little prominent in the vagina and evidently is not attached closely to the pelvic wall. Unless there happens to be intestine adherent over the intraperitoneal exudate, the percussion-sound is dull in both cases.

If suppuration takes places in such a case both the intraperitoneal and the extraperitoneal abscess may point through the abdominal skin and be opened there. If the pointing occurs *deep* in the vagina, the abscess is probably extraperitoneal, and the pus may then burrow so widely as to necessitate both an abdominal and a vaginal opening.

I have twice found the kidney probably congenitally displaced behind the uterus deep in the pelvic cavity, as it happened both on the left side. Supposing the immovable tender tumor to be an ovary and tube bound down by exudate, I attempted removal by abdominal section, and it was not until I had forced my finger tips through the supposed adhesions and brought the tumor out through the abdominal incision that I realized that I had peeled the kidney out of its capsule. Of course I was obliged to ligate the pedicle and remove it; the woman recovered. In the second case I remembered this experience and after satisfying myself by digital exploration through the abdominal incision that the left kidney was absent from, and the right kidney present in, its normal position, I left the former untouched and closed the wound.

The pus from a *perityphlitic abscess* or from an *appendical abscess*, which has burst into the cellular tissue of the iliac fossa, may burrow down behind the pelvic peritoneum and point between the folds of the right broad ligament, or through the right vaginal wall, or in the rectovaginal septum, or even on the abdomen in the median line just above the symphysis pubis; or it may burst into the bowel and be discharged per rectum, after forming a mysterious globular tumor in the suprapubic region. I have seen all this occur, and only the peculiar fetid, fecal odor and the direction from which the pus came, as shown by a probe passed up through the hole of escape, revealed the true nature of the case.

An *abscess of the ovary* is usually surrounded by copious exudate or adhesions and is spherical or irregular in outline; a *pyosalpinx* is often long, like a sausage, tapering down to its uterine attachment, often again curled on itself, twisted, encircling the ovary. The thickened, inflamed tube wound around the ovary—the typical picture of so-called "chronic salpingo-oophoritis" forms a flat, irregular mass of the size and shape of a small mandarin orange, adherent to the posterior fold of the broad ligament, at one side of the uterus, or in Douglas' pouch. This mass is more or less tender, and slightly movable with the broad ligament. The uterus is not freely movable *laterally*, but perfectly so up and down. There is no displacement of the uterus, necessarily, although there may be a retroversion or a slight lateroversion.

When the tube and ovary form a smaller, flatter, more elliptical swelling which does not project into Douglas' pouch, and can only be felt bimanually on a level with the normal location of the appendages and with difficulty through the vaginal vault only, the presence of pus in appreciable quantity in tube or ovary can usually be excluded. Both organs are glued together by adhesions and constitute a distinct swelling, a so-called "thickening" of the broad ligament on the affected side. But there is no free pus in either tube or ovary; and instead of being hypertrophied by the inflammation, or cystic, there is more likely to be an atrophy of the appendages, the swelling being produced by the effused plastic lymph. Such a condition usually denotes frequent mild attacks of local inflammation, none of which has been sufficiently intense to induce suppuration The pain in such cases may be severe and permanent, but there is no danger of rupture of a pus-sac, and therefore no indication for a speedy operative removal of the diseased organs, however necessary such removal may be eventually to effect a cure.

An *ovarian tumor*, when small, drops into Douglas' pouch and pushes the uterus upward and forward; when the tumor grows too large for the pelvic cavity its pedicle permits it to escape into the abdominal cavity and the uterus drops behind the tumor.

Intraligamentous ovarian tumors and *cysts of the broad ligament* grow downward first and push the uterus upward and to the opposite side. As they grow larger they may dissect the peritoneum away from the posterior surface of the uterus (this is particularly the case if there is such a cyst on both sides) and then the latter is carried straight upward and forward so that it can be felt and even seen through the skin of the abdomen. When the tumor has filled the pelvic cavity it rises above and enters the abdomen, always, however, retaining its pelvic position. This is one of the distinguishing features of an intraligamentous cyst, which if ovarian may be fluid or semi-solid, if parovarian always fluid.

As regards the *differential diagnosis of strictly intra-abdominal tumors* as opposed to tumors which become such only by their upward growth from the pelvic cavity, it is a general rule that tumors growing upward force the intestines before them, and that therefore the percussion-sound is dull from the symphysis pubis up to the upper border of the tumor; in originally abdominal tumors the reverse is the case, thus hepatic, renal, splenic, gastric, intestinal tumors grow downward, and the resonant percussion-sound is below the lower border of the growth, between it and the symphysis. Of course, intestine may be adherent to the anterior surface of the tumor and thus spoil this sign; but the rule still holds good.

The sensitiveness, rigidity, adiposity, tympany of the abdominal walls interferes greatly with the exercise of palpation, on which method we chiefly rely for the diagnosis of abdominal tumors. Besides, the tactile sense of different individuals varies so greatly that an entirely opposite conclusion may be arrived at by two equally competent examiners. I have seen a tumor pronounced to be a fibroid of the uterus which turned out to be a dermoid ovarian cyst; I have myself hesitated on account of the peculiar shape of the tumor between a hypertrophied spleen and an ovarian polycyst, which latter the operation showed it to be; I have operated for what I thought to be a large ovarian polycyst and found it to be a fibrocystic uterus, as, indeed, probably have all abdominal surgeons; I have seen the peritoneum stripped partly away from the anterior abdominal wall in the supposition that it was the adherent wall of an ovarian cyst, until accidental rupture of the peritoneum revealed general ascites from tubercular peritonitis; the pregnant uterus has been tapped and even incised through an abdominal incision in the belief that it was an ovarian cyst; a woman was allowed to die of exhaustion from a supposed ovarian tumor, in whom the autopsy disclosed an enormous coprostasis through which ran a channel for the diarrheal discharges which were supposed to be the cause of the patient's death (in the clinic of Professor Von Bamberger at the Julius Hospital, Würburg, some thirty years ago, while I was house-surgeon to the Maternity Hospital there); and I have seen a supposed appendical abscess opened and an ovarian tumor with twisted pedicle found instead; and I myself have operated for supposed appendicitis and found an adherent abscess of the right ovary. And all the instances cited occurred in the hands of experienced operators, men of skill and wide reputation.

Careful examination with hands, eyes, ears, with the patient in varying positions, under inspiration and expiration, coughing, straining with empty bowels, relaxed abdomen, even ander anesthesia if otherwise impossible—together with a critical consideration of the history, endeavoring to allow for exaggerations, misstatements, improbabilities, etc.—all these precautions must be employed to enable the examiner to make a correct diagnosis, and still frequently all prove inadequate. At times all signs fail.

I have in mind three recent examples of the fallacy of both subjective and objective symptoms, as it happens, all relating to cases of presumable *ectopic pregnancy*.

Case I.—Married, thirty-three years of age, no children, one miscarriage nine months before; menstruation regular every four weeks, lasting three days; since five months irregular; skipped two months, since then spotting every four weeks with pain in the left ovarian region, the last ten days before examination; nausea and vomiting since three months; pain in left inguinal region. Diagnosis of ectopic pregnancy was made by two physicians, one a gentleman of great eminence, although not a gynecologist; patient was referred to me by both physicians independently. I could find absolutely no evidence of gestation, ectopic, or normal; but as the woman's abdomen was very fat, bimanual examination was unsatisfactory, and I therefore advised exploration under anesthesia. This was done and then both adnexa could be distinctly felt to be normal and uterus empty.

Case II.—Age twenty-one, married eight months, menstruations regular up to three months before marriage, then no menstruations until one month ago, since then twice, last just over. Admitted coition three months before marriage, feared conception, was pronounced pregnant then by physician, hence marriage. Abdomen increased steadily in size until two months ago, that is nine months after exposure and supposed conception, since two months has diminished in size. Mass in abdomen extending from brim of pelvis to epigastric region solid, fairly movable, kidney-shaped with larger end at pelvis. General health good, no cachexia. Uterus empty. Diagnosis: Abdominal pregnancy, dead fetus—based on history and physical signs. Abdominal section revealed sarcomatous tumor of left ovary.

If ever there were two cases with a clear history of ectopic pregnancy these were the two. In contrast is the following:

Case III.—Multipara, forty years, youngest child eight years old; menstruations always regular, last four weeks ago; no sharp or steady pain, merely in rectum during defecation for last week; anemic. Behind uterus (not sounded) small, soft, irregular mass of doubtful character, possible coagulum, malignant, omentum, not like tubal or ovarian (quotation from my office case-book); very fat. Referred back to family physician for later examination under anesthesia. Three weeks afterward examination under chloroform, pelvis filled with firm mass extending above pelvic brim; diagnosis, hematocele, probably steadily growing. Abdominal section, large mass of solid coagula, ruptured right ectopic tube—and still not a menstrual period had been missed and there was no stillicidium sanguinis until after my first examination.

I have seen so many cases of ectopic pregnancy that I am more than ever impressed with the difficulty of diagnosis in some of the cases, mainly from the absence of the usually most characteristic signs: Irregularity of menstruation, even an arrearage of only one or two weeks; bloody oozing, paroxysmal pains, fainting, or collapse. To differentiate between incomplete uterine abortion and ectopic pregnancy of a doubtful type seems to me one of the most difficult problems; only the removal of distinct placental fragments from the uterus and the utter absence of an extra-uterine swelling, corresponding to a pregnant tube or a hematocele, would decide in favor of an abortion.

A *movable kidney* is often to blame for abdominal pains and digestive disturbances. I see many cases where I find nothing in the pelvic organs to explain these pains, but on palpating the renal regions with the woman in the recumbent dorsal or lateral, or erect prone position, I have easily detected the displaced kidney or kidneys, and recommended the abdominal laced bandage, or flannel roller bandage, which latter I find to give the most relief in these cases. The paroxysmal attacks of pain running down the flanks from the renal to the suprapubic region I have already referred to as probably indicating the passage of small renal calculi, gushes of concentrated urine or discharges of pus from the kidney, suppositions which an examination of the urine will confirm or refute. I lately did a nephrotomy on a woman with such symptoms entirely on the left side, whose urine showed copious pus, and my diagnosis was triumphantly verified. As the pains were confined to the left side it was not necessary to catheterize the ureters to decide which kidney was diseased, although as a rule I would advise this precaution before operating on the kidney.

It may seem strange that there should be any difficulty in deciding whether an abdominal tumor is intra-abdominal, or situated in the abdominal wall only, but such is the case. *Desmoid tumors*, as these growths in the abdominal wall are termed, often puzzle even the most expert examiners as to their location, the reason being that they usually are closely attached to the peritoneum, being muscular (mostly sarcoma of the rectus muscle).

Appendicitis and *salpingitis dextra* are frequently associated and noticeable in the interval of the chronic cases by a small tumor situated midway between the ovarian and appendical regions, tube and appendix being co-adherent. The swelling of an appendicitis should not ordinarily be mistaken for a salpingitis, since the former can never be touched from the vagina unless the appendix is displaced or the exudate has migrated downward, and the tube does not extend as high up as the supra-iliac region. Still, even experts may at times be in doubt in such cases.

As I have already said, it is not my object to exhaust this subject. My paper has already grown far beyond the length I had proposed for it. That even the most expert may err in abdominal and pelvic

diagnosis is well known. I for one freely acknowledge that I have made mistakes of this kind, mistakes at times which I was ashamed of. I do not, therefore, feel justified in criticizing too severely the errors of others. "Those who live in glass houses should not throw stones." And "*Erare humanum est.*" Many diagnostic blunders are unavoidable, hence in abdominal cases the welcome expedient of "exploratory celiotomy." Nevertheless, the plan adopted by some abdominal operators, to operate first and make the diagnosis afterward is scarcely to be commended. If we have exhausted all available means to solve the difficulty, and have even called in a competent consultant, we may surely be excused if after all our diagnosis proves to have been wrong. We can, at all events, not be accused of having failed to do our duty.

CLINICAL MEMORANDUM.

A CASE OF TETANUS TREATED WITH ANTITOXIN; A CASE OF TETANY; A CASE OF PHARYNGEAL ABSCESS DIAGNOSED AS TETANUS.

By JAMES R. ARNEILL, M.D.,
of Ann Arbor, Mich.;
Demonstrator of Physical Diagnosis in the University of Michigan.

In a recent communication,[1] G. G. Rambaud of the Pasteur Institute, New York, abstracted reports of the experiments of Roux and Borrel[2] in the intracerebral injection of antitoxin in tetanus. They treated forty-five tetanized guinea-pigs by intracerebral injections of antitoxin; thirty-five recovered. Seventeen others were treated by subcutaneous injections; two recovered. Of seventeen check guinea-pigs not treated with serum, all died. Rambaud collected from literature reports of twelve cases in man in which intracerebral injections had been employed. Of these five recovered. So large a percentage of recoveries in this ordinarily fatal disease eloquently recommends this treatment to our consideration and trial. The subcutaneous and intravenous injection of antitoxin have proved to be nearly worthless in severe cases of tetanus, scarcely more valuable than the drugs which were used previous to the days of serum-therapy, such as chloral, bromids, and morphin. The experiments of Roux and Borrel demonstrate plainly why intracerebral are more successful than subcutaneous or intravenous injections. They took a portion of the brain substance of a guinea-pig, crushed it with some tetanic toxin and centrifugalized the mixture. This separated into two layers, the upper layer being an opalescent fluid, the lower the nervous substance. The upper layer was found to contain very little toxin, or none at all, while the nervous substance contained the tetanic poison.

In the body as in the test-tube cerebral and spinal nerve-cells have a peculiar selective action upon tetanus toxin, but not upon antitoxin. The poison reaches the nerve-centers by two routes: a part follows the course of the nerves, and another part enters the blood, where it is extracted by the nerve-cells.

Evidently subcutaneous or intravenous injections would be more often successful if given sufficiently early, while most of the toxin is yet in the blood, the toxin and antitoxin thus being brought into intimate contact and antagonizing each other in this tissue. Intravenous injection is almost useless if delayed till the spinal and cerebral cells have extracted the toxin, the period when most tetanus patients come under treatment. At this stage almost the only hope of recovery lies in intracerebral injection. A question immediately arises, Is this selective action upon tetanus toxin equally distributed among all cerebral and spinal nerve-cells? If so, can the comparatively small quantity of antitoxin injected into the frontal lobe reach a sufficient number of cells by diffusing from one to the other to bring toxin and antitoxin into sufficiently large contact to control the disease? Is it because of a failure to do this that the majority of these patients die? An important point to remember in the treatment is that toxin is being continually generated at the site of injury and taken up by the blood. Therefore subcutaneous injections should always be continued and the wound treated while intracerebral injections are being given. To the three cases in America, mentioned in this article, must be added the fatal case under the care of Dr. Arthur Le Febvre of Detroit, by the intracerebral method.

Tetanus.—Harry West, colored, aged sixteen years, hostler, was admitted to the University Hospital November 9, 1898. While working in a stable, October 29, 1898, he stepped on a rusty nail which penetrated his shoe and entered the outer side of the sole of his right foot, making a small puncture. No attention was paid to the wound, which healed and was promptly forgotten. On November 5th, eight days after the accident, he began to feel sick, with stiffness in the neck and pain in the region of the heart. On November 7th he had spasms of the muscles of the right shoulder and right leg. When admitted to the hospital, twelve days after receipt of the injury, he could not walk, the muscles of the neck, trunk, and legs being tonically contracted, producing a condition of opisthotonos. The chin was drawn around to the left. The slightest irritation, such as questioning, touching or feeding him, started the convulsions. These involved especially the right side. After a careful examination of the right foot I found a sealed puncture from which only a few drops of bloody serum could be squeezed. Cultures were made by Dr. Novy and the bacillus of tetanus was demonstrated. The case was referred to Dr. Nancrede who began treatment by incising and cauterizing the wound, and giving chloral, 20 grains, and bromid, 40 grains, every two hours, per rectum, and morphin hypodermatically. A subcutaneous injection of 10 c.c. of Parke, Davis & Co.'s antitoxin was given at four o'clock on the day of his admission and repeated every four hours until the death of the patient which occurred on October 11th at 4.30 A.M., four days after his first convulsion. Ninety c.c. of antitoxin in all was in-

[1] *New York Med. Jour.*, December 17, 1898.
[2] *Annals de l'Institute Pasteur*, April, 1898.

jected. The bowels remained obstinately constipated. All attempts at feeding either by the mouth or rectum brought on convulsions. These gradually increased from about thirteen per hour until just before death, when he was in an almost continuous convulsion. The highest temperature noted was 101.6° F. His pulse ranged from 90 to 160, and respirations from 20 to 46.

The most interesting points about the case are the classical development of the convulsions ten days after the injury, and the death of the patient four days after the convulsions began. A Hippocratic aphorism says, "Such persons as are seized with tetanus die within four days, or if they pass these they recover." The absence of trismus is also worthy of note. The limitation of the convulsions chiefly to the right side, the side of injury, bears out the statement of Marie: "A part of the poison follows the course of the nerves and is fixed by the cells of the spinal cord; for this reason in animals contractions begin in the region in which the injection is made, and in man generally in the wounded part." The failure of the antitoxin to relieve any of the symptoms should be emphasized.

Tetany.—Mrs. R., a woman of middle age, came to the hospital because of periodical attacks of griping pain in the umbilical region, occurring at intervals of two weeks to two months. There was a family history of weak stomach. The trouble began when the patient was eighteen years old, with griping pains in the stomach, nausea, and vomiting. Rarely a heavy meal seemed to be the causal factor. Eating at this time made the attacks worse. At first they occurred about once a year; gradually they became more frequent, until at the time of admission they occurred as often as once every two weeks. The pain was so severe that hypodermics of morphin were always given. The patient vomited from a pint to a quart of material in which she detected particles of food which had been eaten the day before. During the previous year she had vomited blood in amounts ranging from a trace to two tablespoonfuls. During the previous twelve years a numb feeling and cramps over the entire body had been associated with these attacks. At this time both wrists are flexed toward the trunk, the fingers were flexed at the metacarpophalangeal articulation but remained stiff and straight, and the thumb was flexed into the palm of the hand. The ankles were also flexed inward and the toes bent like the fingers. At times the most trivial blow or pressure upon any part of the body would be followed immediately by a large swelling. After riding a few miles on a cramped carriage-seat the leg which was pressed against the outside of the seat became enormously swollen.

The patient was well nourished though a trifle pale. There was a very soft murmur associated with the first sound of the heart at the apex. Over the aortic area a louder and harsher murmur could be heard. The kidneys were not palpable. The stomach, when distended by means of tartaric acid and bicarbonate of soda, was found to be dislocated: the lesser curvature was two inches above the navel, the greater two inches below. Marked succussion-sounds were elicited over this area.

The diagnosis was tetany associated with dilatation and dislocation of the stomach, first described by Kussmaul. The association of angioneurotic edema is of interest.

Pharyngeal Abscess Diagnosed as Tetanus.—A Spaniard, about thirty years of age. When first seen his jaws were firmly locked. His mind was clear and there were no spasms of muscles in other parts of the body. The following history was obtained from friends: Four weeks previous to my visit a molar tooth was extracted in a bungling way, with considerable laceration of tissue. Soon the patient found it impossible to open his mouth. This condition persisted for a month and was diagnosed as lock-jaw. A surgeon of eminent ability was summoned, and being familiar with the frequency of hysteria among this nationality, made the tentative diagnosis of hysterical spasm. At his suggestion I inserted a gag and by means of a screwing motion succeded in opening the jaws about a third of an inch. The gag remained in place several hours, the patient suffering considerably as a result. Following several insertions of the gag I succeeded in obtaining a poor view of the posterior pharynx. The tissues appeared inflamed and swollen. It was impossible for me to use finger palpation. Suspecting a pharyngeal abscess, an incision was made in the anterior pillar and a large quantity of pus was evacuated, with great relief to the patient. The tissues cut with considerable resistance, suggesting a fibrous condition. From this time improvement was progressive but gradual, owing to the indurated condition of the tissues surrounding the temporomaxillary articulation.

The diagnosis of tetanus is usually easy. The diseases from which it must be differentiated are the convulsions of strychnin poisoning, thyroidism, hysterical spasms, and the above-mentioned diseases. The history of injury, the period of incubation, and the character of the convulsions are sufficient data to prevent error.

MEDICAL PROGRESS.

Resection of the Cervical Sympathetic in Epilepsy, Exophthalmic Goiter and Glaucoma.—JONNESCO (*Centrabl. f. Chir.*, February 11, 1899) published a brief article upon the above subject two years ago. Since that time he has performed the operation upon fifty-four patients, making altogether sixty-one patients operated upon in this manner. No bad effects were observed after the operations. There were no trophic disturbances nor was any influence noticeable on the general or mental condition of the patient. In ten cases of true exophthalmic goiter, a cure was six times obtained, and an improvement four times. The exophthalmos first disappeared, then the nervousness and tachycardia, and then the goiter. The results upon cases of secondary exophthalmic goiter were less satisfactory. Forty-five epileptics were operated upon, of whom six died in a shorter or longer time, either in an epileptic attack, or of some other trouble. Of nineteen patients who were observed for a considerable length of time, 55 per cent. were cured, 28 per cent. improved, and 15 per

cent. were not improved. It must not be inferred that the operation is indicated in all cases of epilepsy. In old cases with either mania or dementia, there are already changes in the brain, which no operation can help. In recent uncomplicated cases on the other hand, there is every reason to look for a brilliant result. In glaucoma the results were equally good. They consisted in lessening of the ocular tension, contraction of the pupil, lessening or disappearance of the peri-orbital pain and headache, disappearance of the attacks in the irritative form of the disease, and an improvement of vision with increase in the field, in those patients in whom atrophy of the papillary layer was not absolute.

Lifting the Uterus to Control Post-Partum Hemorrhage.—Dickinson (*Brooklyn Med. Jour.*, March, 1899) advocates the lifting up of the uterus against the lumbar, or even dorsal spinal column with one hand, while the other placed below it, grasps and compresses and rolls the lower part of the uterus including the cervix. In this manner the cavity of the uterus is obliterated, and the walls pressed together as cannot be done by methods which force the body of the uterus down into the pelvis, either with or without counter pressure made through the vagina. The claims are substantiated by frozen sections. This procedure can be carried out, while waiting for the hot douche to be prepared, or for the ergot to take effect. It has the advantage of giving no risk of infection.

Another good point mentioned by Dickinson is the method of separating an adherent placenta. It is usually not necessary to separate more than half of the placenta, when the whole organ will become loosened. It is of course best to begin at the bottom and work up. His proposal is to introduce the hand within the membranes instead of outside of them, so that the fingers in digging up between the placenta and uterine wall may be always covered by the membranes like a mitten and danger of infection be thus avoided. As the membranes tear readily, it is necessary to rotate the hand a little, and to "pick up a little slack on the way in," before pushing the fingers up between the placenta and the wall of the uterus.

Habitual Constipation in Infancy.—Blackader (*Progressive Medicine*, vol. i, March, 1899) states that habitual constipation in infants may depend on the anatomic peculiarity of the bowel, which exists in the early months of life and may persist to the twelfth or eighteenth month, or even later. This peculiarity consists in an undue length of the descending colon, and the presence of two or three distinct flexures of the sigmoid instead of one. This condition retards the movement of feces, favors absorbtion of fluids, and leads to the formation of large, hard masses difficult of expulsion. In these cases constipation is best treated by massage, and the daily employment of either enemata or suppositories. Or the disturbance may be due to deficient muscular power, abnormal consistence of the intestinal contents and decreased peristalsis. The feces should be carefully inspected in order to determine this point. The food-supply is often the source of the difficulty. If the proteids exist in too high a percentage, colic and loose movements may result instead of constipation. A low percentage may influence injuriously the development of the intestinal muscles. Malt preparations are said to raise the percentage of fat. In artificially fed infants, constipation may also be due to an insufficiency in the fats or proteids. The addition of a teaspoonful of fresh cream for each teaspoonful of condensed milk used is an effective way of relieving the constipation following feedings of condensed milk which is low in fats. Beef-juice is occasionally laxative in effect. In the constipation of rickets, the diet must be carefully regulated and the usual antirachitic treatment, including the administration of cod-liver oil instituted. When constipation is due to congenital stricture of the anus or rectum, rectal examination will reveal the seat of the difficulty. A careful examination should always be made in persistent cases. When nutrition is defective, malt extracts and cod-liver oil may be tried. Enemata should be employed for a comparatively short period only—and saline solution is recommended as being less irritating to the mucosa than plain water. A teaspoonful of glycerin in a tablespoonful of water is a stimulant, and will frequently be found an excellent means of securing a proper evacuation.

Wore a Pessary for Thirty-two Years without Change.—Blondel (*La Gynecol.*, February 15, 1899) examined an old woman who came to him complaining of pain and a foul bloody discharge from the vagina. He thought that she had a cancer, but instead he found a completely incrusted pessary so firmly embedded in the vagina that its removal was a serious undertaking. Posteriorly it had cut though the rectovaginal membrane until only the mucous membrane of the rectum intervened between it and the rectal cavity. As the last local treatment she had had was four years after the birth of her youngest child, who at the time of her visit was thirty-six years of age, it followed that the pessary had been in position for at least thirty-two years.

General Gonorrheal Infection.—Colombini (*Centralbl. für Bakter.*, etc., December 30, 1898) describes a case in which the gonococci were found not only in the urethra, and in an inguinal abscess, but also in pus from suppurative processes in the testis epididymis, and parotid gland, and later in the blood and urine. This is the only case, as far as known, in which an infective process has attacked, first, the testicle, and then the parotid gland. The reverse of this order, the testicle being attacked after the parotid gland, is common enough; for example, in mumps.

On Prolonged Decubitus after Childbirth. — Desplats (*Jour. des Sciences Med. de Lille*, January 28, 1899) says that the idea of keeping a woman absolutely quiet in bed for a long period after childbirth, is calculated to do her more harm than good. Such a treatment has been insisted upon because of the fear of (1) infection, (2) displacement, (3) the fear of uterine subinvolution. He insists that if the patient be allowed to sit up, or better to stand up, from time to time that fluids will be drained away from the vagina and cavity of the uterus, and the

risk of infection will therefore be lessened. Moreover, changes in the position of the patient and movements assist in the return of the uterus to its normal size and position, by favoring the intra-abdominal circulation, and re-establishment of the actions of the intestines, stomach, liver, bladder, and kidneys. Patients treated in this manner will not only recover their health more quickly, but will be better able to nurse their infants during convalescence. The writer has followed this plan of treatment for thirty years, and has never seen an accident which he could ascribe to it.

Formalin in Whooping-cough.—OLLIPHANT (*New York Med. Jour.*, March 4, 1899), after a year's trial of formalin in the treatment of whooping-cough, is convinced that it is as much of a specific for this disease as mercury is for syphilis, or quinin for malaria. The results seem to prove that whooping-cough is a disease having a purely local lesion, the infection beginning in the fauces, and by the multiplication of the germs infecting later the air-passages, and then the general system. This idea is borne out by the fact that carbolic acid, menthol, and other antiseptics, have been used in the throat with benefit, but the results obtained by them have not been so uniformly good as those which have followed the application of a solution of formalin. Out of twenty cases so treated not one failed to be cured in less than eight days; while some were cured in three days. The application of the formalin solution to the fauces is followed by free emesis, so that the solution used in young or debilitated children should be weak.

Technic of Suturing a Fractured Patella. — CUMSTON (*Annals of Surg.*, March, 1899) finds the best incision for fracture of the patella, in case it is desired to suture the fragments is one shaped like a horseshoe, the base of the flap being broad and well supplied with vessels, while the incision is everywhere 1½ or 2 inches from the edges of the patella. The base of the flap may be downward or to the inner side, the former being preferable in recent cases without much separation. By such a large incision, the parts can be thoroughly exposed and cleaned. Particular attention must be paid to the removal of all clots from the joint and from between the bones, for such clots often contain bits of periosteum or aponeurosis which may interfere with the restoration of the parts ad integrum. Silver wire is used for the suture, and each fragment is bored in three directions, the lines making a triangle in each fragment, and the apices of these triangles coming together in the line of fracture. In this manner the whole wire can be buried, except the ends, which come out at the side of one of the fragments and are twisted together.

Fractures of the Astragalus.—BASTIAN (*Rev. de Chir.*, March, 1899) made an experimental study of fracture of the astragalus, bringing a known pressure or blow upon the bone while it was either held firmly between fixed objects representing the bones with which it is articulated or rested in its natural relations in the human foot. He found that fracture of the astragalus can be produced in four ways: by crushing, by penetrating, by tearing and by a special wrenching, which the author calls avulsion.

Crushing fractures are produced when the astragalus is compressed between plane surfaces. They are situated in an approximately frontal plane, at the neck, and are dependent upon the configuration of the bone. Their especial characteristic is that the widest separation of the fragments occurs on the side opposite to that from which the force acted

Fractures by penetration occur when the bone is subjected to a pressure between two cuneiform surfaces. The maximum of separation occurs on the side of the violence. Oblique fractures are produced in this manner. They are associated with luxations or subluxations of the bone. These two methods of compression and penetration may be associated and give rise to T-shaped or Y-shaped or stellate fractures. In certain movements of the foot, the ligaments can tear off certain portions of the bone. These occur most often in its posterior portion. The posterior apophysis may break as a result of a special mechanism called avulsion. This is indeed a partial crushing but it differs from the ordinary crushing by the especial characteristics of that portion of the bone.

THERAPEUTIC NOTES.

Camphoric Acid for Night-sweats. — COSTON (*Therap. Gaz.*, March 15, 1899) has tried camphoric acid in ½-dram doses one hour before bedtime, with a glass of milk or water, for night-sweats. He mentions three cases in which the remedy sufficed to control absolutely the sweats, both in fatal cases of tuberculosis and in rheumatism. In debilitated patients during recovery from typhoid fever, the patient is often as much weakened by the sweat as he gains by the sleep. In such instances 30 grains of the camphoric acid will often suffice, and may not need to be repeated for several days. The medicine is best given dry on the tongue, and then washed down with water or milk. The writer has never known it to fail to give relief.

For Pelvic Neuralgia and Vaginismus. — For these affections when due to inflammatory conditions of the uterus or adnexa, or to the existence of inoperable tumors, the section of branches of the sacral nerves has been tried with benefit. PONCET of Lyons has devised a more simply procedure based on this fact. He dilates the anus, under anesthesia, as if for fissure, and follows this by very gentle dilatation of the rectum, either by the fingers or by means of a large speculum. He has found much improvement to result from this treatment, which may, however, have to be repeated at intervals.

For Cough During Measles.—

℞	Spts. etheris nitrosi . . .	ʒ ii
	Ammonii chloridi	ʒ ss
	Pulv. ipecac. et opii . . .	ʒ i
	Syr. simplicis	ʒ iii.

M. Sig. Shake well before using. Dose, one to four teaspoonfuls.—*Ebert.*

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THE NEW PHILOSOPHY OF OLD CLOTHES.

There has always existed a very natural feeling of objection to the use of second-hand clothing, which, for the needy, however, the stress of poverty has always overcome. In cases where the former owner died of acute contagious disease the dangers that lurked in the use of such clothing by others was evident. Only of late has come the realization that where chronic contagious disease, as, for instance, tuberculosis, has existed in the owner of the clothing, it becomes so saturated with infectious material that only the most careful and prolonged sterilization renders it safe for subsequent use. Even where the first owner has been of reasonably cleanly habits the danger still exists.

In a paper read at the last meeting of the American Climatological Society it was shown that the hands of consumptives are nearly always contaminated by the bacillus tuberculosis. The pockets of garments can scarcely fail under these circumstances to contain large numbers of bacilli. Dr. Bissell, the City Bacteriologist of Buffalo, has recently taken a favorable opportunity that chanced to present itself, to investigate clothing that was actually about to be transferred to others. Certain soldiers suffering from phthisis were being mustered out of the 74th Regiment at Buffalo. According to custom in the National Guard their uniforms were to be reissued to incoming recruits. Dr. Bissell secured the pockets of the uniforms, and having soaked them for some time in water, centrifugated the resulting liquid and injected the sediment into guinea-pigs. Of sixteen animals so injected seven died within forty-eight hours of acute septic infection. Of the nine others five recovered, one was killed by accident, one died without discoverable cause, and two died of tuberculosis.

It seems clear that there is in this matter of the sale of old clothes a subject that requires the attention of boards of health. If sources of active contagion are to be eliminated, all second-hand garments should be subjected to effective sterilization before being exposed for sale. Even where the former possessor was presumably healthy he may have been carrying around with him certain micro-organisms to which he himself was immune, but which would seriously affect others. The whole subject is of great practical and scientific importance and involving, as it does, certain of the unsolved problems of infection and infectiousness, deserves the serious attention of public-health authorities generally.

APPENDICITIS AND TERMINOLOGY.

We are wont to hear a good deal of the awful philological crime of using such hybrid words as appendicitis and other kindred arbitrary compounds of Latin and Greek, or Latin words with Greek endings. Not a little of the objection in this respect has come from foreign medical men whose nice esthetic etymological sense has been so cruelly tortured by these barbaric combinations. Perhaps it is some compensation to their feelings that they are able to roundly abuse the name, since they have to admit at last that American medicine has in the discovery of the etiology and treatment of appendicitis added a new and important chapter to medicine and surgery.

It is refreshing under the circumstances to read the account, which we publish this week, of the proceedings of the last meeting of the New York German Medical Society containing the discussion of the propriety of the term appendicitis. Our

German-American brethren have proved thoroughly conservative in the matter, and have shown a very commendable hesitancy in suggesting any far-reaching reforms in our good English medical vocabulary. All are agreed that we may let well enough alone.

Words are but arbitrary signs. In the living language their elements are often absolutely without significance. It is usage, not nice rules of etymology, that decrees life or death to a word. The words over whose birth geniuses watch with the intent that every detail of structure shall be correct often prove still-born or short-lived. Once words have come into general use it is labor lost to attempt to displace them and the reasons for attempting it are often questionable enough. There is much of pretense in the supposedly pious zeal of the utterly pure in etymology. Perhaps the discussions aroused over appendicitis will lead to the adoption in future of philologically better terms for new ideas in medicine, but even that is doubtful. And then did anyone ever know a philologist (save the mark!) who was ever quite satisfied with a new term? Certain it is that it is now too late to work reform in words that have become part and parcel, not alone of medical language, but of the English tongue itself.

SUCCESS OF PYLORECTOMY FOR MALIGNANT DISEASE.

Since Schlatter's removal of the entire stomach, with good functional results, surgeons have been even bolder than before in removing portions of that viscus and the results have justified their apparent hardihood. The operation of gastro-enterostomy, done for its palliative effect in malignant disease of the pylorus, is evidently destined to be reserved only for the most extreme cases, in which the malignant tumor has invaded surrounding tissues extensively and in which there can be absolutely no hope of the complete removal of all the involved structures.

At the last meeting of the Clinical Society of London, held March 24th, Dr. Rutherford Morrison presented four patients on whom he had performed pylorectomy for malignant disease. The patients ranged from thirty-eight to forty-eight years of age; the tumors were, one encephaloid cancer, one colloid cancer, one adeno-carcinoma, and one scirrhus. They varied in size from that of a walnut to an orange. All of the patients had gained remarkably in weight since the operation, the smallest amount gained being fifteen pounds. This was in a man on whom the operation had been performed only six weeks before. The functional result was excellent; the patients could eat whatever they desired and suffered no inconvenience or discomfort. In two of the cases considerable portions of the stomach-wall had been removed during the operation, in one nearly the whole stomach. Notwithstanding this recovery had been uneventful and satisfactory.

Dr. Morrison gives it as his opinion that the size of even a malignant tumor of the stomach should never constitute a contraindication to its removal. If it is movable, the tumor should be excised no matter what its size. Pylorectomy is in his experience no more dangerous than gastro-enterostomy and looked at even as only a palliative operation gives much more satisfactory results. He considers that gastro-enterostomy has been greatly overdone and its supposed lesser danger over lauded. Of course there is the added advantage in pylorectomy that it gives the patient at least a fair chance for radical cure. Recurrences may and will take place in some cases even when immediate results are most satisfactory. In Dr. Morrison's cases it is probable there will be some recurrences either local or metastatic but meantime the best interests of the patient have been consulted. The operative measure he advises is undoubtedly in line with the best conservative surgery.

GLYCERINATED VACCINE LYMPH.

We noted last week in our column of "Echoes and News" that the Fothergill medal for 1899 has been awarded to Dr. Copeman for his researches on the preservative effect of glycerin on vaccine lymph. We shall shortly in our column of "Notable Books" give a résumé of Dr. Copeman's recent work on the general subject of vaccination. Meantime, the subject is one deserving of more than passing attention. The recent passage of the conscientious objection law in England that has led to so much strenuous protest on the part of British and other medical men shows that a great deal of influence is accumulating, at least among English-speaking people, against the rigorous enforcement of present laws with regard to vaccination. The antivaccination-

ists are about to invade the Continent, too, an anti-vaccination congress having been actually appointed to convene during the summer in the very stronghold of belief in vaccination—Berlin. We await the outcome of it with interest.

Opposition to vaccination is founded, in addition to certain fanatical objections to the assumed horror of communicating a cattle disease to man, on the morbidity and mortality that, in a limited number of cases, accompanies vaccinia. While a certain amount of indisposition inevitably attaches to vaccination, there is no unavoidable reason why it should ever produce serious illness or lead to a fatal issue. In the collection and preservation of vaccine lymph from the calf there was formerly almost inevitably involved the contamination of the vaccine virus with other infective agents. Practically all of the complications accompanying vaccination in former times were due to mixed infection. It was not uncommon to inoculate the patient with pyogenic or erysipelatous germs which were mingled with the vaccine matter, and which produced their accustomed effect. Indeed, it must be admitted that many of the supposedly excellent vaccine scars of the olden time are really only marks of the purulent process that accompanied the vaccination.

A vast amount of painstaking work has been necessary to secure the elimination of these extraneous infective agents without lowering the value of the vaccinating material proper. Dr. Copeman's work has shown that this can be best accomplished by the addition of glycerin to calf vaccine. Under its protecting powers other micro-organisms lose their vitality, but the specific vaccine matter retains all its power, and may be thus preserved for long periods.

It seems almost needless to say that proper precautions should be taken to secure the vaccination wound from any secondary infection during the progress of the vaccinia. Some one has recently said that the wound made in vaccination seems to be the only one that the Doctor does not deem it advisable to protect from infection. It must not be forgotten that the vaccinal inoculation, during the absorbing and healing process, far from protecting against secondary infection, rather favors it by keeping the lymph paths open. The necessity for such protection, while not disturbing the progress of vaccinal absorption, as will preclude the possibility of extraneous germ material from getting into the wound is evident.

QUININ IN MALARIAL HEMOGLOBINURIA.

Dr. Lynch's very valuable and practical contribution on "African Black-water Fever" to the recent discussion on malaria before the New York Academy of Medicine, an abstract of which will be found in our present issue, affords an opportunity to say a last word on the use of quinin in hemoglobinuric conditions. The position we took on this subject at the time of the last malarial discussion at the Academy was criticised in certain quarters. In response we showed that the therapeutic principles we advocated with regard to the use of quinin were supported by the best authorities on malaria. The matter is an extremely practical and important one for our Southern medical men, and because of its bearing on the contraindications to the use of quinin in general, is of interest to the profession wherever malaria exists.

As there have been several recent important contributions to the subject we shall briefly set them before our readers. Evidence is accumulating more and more from those who have been intimately in contact with the disease in Africa that Koch's declaration of the etiological influence of quinin in the affection was not only ill advised but unfounded. Dr. Lynch notes that the disease occurs especially among those who have neglected to take quinin either for prophylactic purposes or for slight symptoms of malaria. All of the English medical men whose service in South Africa has made them practically familiar with the disease and who have put themselves on record in this matter, have announced just this same opinion. All of them, too, have agreed in saying that the one hope for patients suffering from African black-water fever is quinin promptly and liberally given. Several of them even insist that when the state of the digestive organs gives small hope for the prompt absorption of the drug—and this is not infrequent because of persistent vomiting—that it should be given hypodermically.

It is interesting to note that several of these contributions to the subject have appeared in the columns of the London *Lancet*. The journal saw fit to express editorially its disaccord with our views on the use of quinin in malarial hemoglobinuria, though it agreed substantially with them when enunciated by its

own contributors who had had experience with the disease. Dr. Walter Fisher, L.R.C.P., of Nana, Candunu, in the Lovale country, Central Africa, in a letter (*Lancet*, March 18, 1899) says:

Koch's statement that "the treatment of black-water fever with quinin must absolutely cease" may lead to very disastrous results. After more than eight-years' experience in Central Africa, I feel sure that if quinin is not used in these severe cases the death-rate will increase enormously. I have tried latterly the giving of smaller doses, but in the end have had to go back to the larger doses, before the fever would break. To give up quinin in our hemoglobinuric fevers would, to my mind, take away from patients their best chance of recovery. I have never seen a case in which quinin has caused hemoglobinuria.

Dr. W. H. Crosse, formerly chief medical officer for the Royal Niger Company of Central Africa, publishes an article on black-water fever (*Lancet*, April 1, 1899) which was read before the English Epidermological Society, in which he says:

Quinin should always be administered in doses sufficient to make it certain that the blood is freed from the malarial parasites. It is frequently difficult to efficiently administer quinin by the mouth on account of the persistent vomiting, and administration by the rectum is unsatisfactory. I am myself a strong advocate, under these circumstances, of the hypodermic administration of quinin. In a recent case under my observation here in England, quinin was first given by the mouth and the patient had a relapse. It was then given hypodermically and he recovered without further relapse.

In the first number of "Progressive Medicine," Dr. Thayer has an excellent review of all the recent literature of malarial hemoglobinuria in which he comes to the following conservative, practical conclusions:

In certain severely malarious districts, repeated infections result in the development of an individual predisposition to hemoglobinuria. In some instances the attack seems to be provoked by the actual malarial paroxysm. The immediate provoking cause is often impossible to determine. In certain tropical regions the ingestion of quinin may provoke the hemoglobinuric paroxysm. . . . It is certain that a large proportion of the so-called "malarial" hemoglobinurias have no relation whatever to the taking of quinin.

We think that the citation of these authorities makes it perfectly clear that fear of doing harm, by the administration of quinin freely, is unfounded and apt to do much more harm than good. Especially is the practical conclusion important for those of our citizens about to go to our tropical possessions. Quinin as a prophylactic against malaria is efficient and except where idiosyncrasy for the drug exists its use to ward off malaria is associated with no serious dangers.

ECHOES AND NEWS

A Pathologist to the City Hospital.—Dr. Walter Bensel has been appointed Pathologist to the New York City (Charity) Hospital.

Bill Signed by Governor Roosevelt. — Mr. Kelsey's bill appropriating $105,000 for the Gray colony for epileptics has received Governor Roosevelt's signature.

State Board of Charities Re-election. — At the annual meeting of the State Board of Charities at Albany, on April 13th, William Rhinelander Stewart of New York, and Enoch V. Stoddard of Rochester, were re-elected president and vice-president, respectively.

The Price of Quinin Rises.—A scarcity of quinin has led to its advance in price by more than 100 per cent. in the wholesale market, where it now sells at thirty-five or forty cents an ounce. A few months ago it sold at from fourteen to sixteen cents an ounce in bulk.

The Cavendish Lecture.—Professor William Osler of Johns Hopkins will deliver the Cavendish lecture before the West London Medico-Chirurgical Society on June 13th. By special arrangement through the kindness of the lecturer we shall present the lecture to our readers immediately after its delivery and simultaneously with its publication in England.

"Missouri" brings Sick Soldiers.—The army transport "Missouri" arrived at Old Point, Virginia, on April 12th, having on board 210 sick soldiers from Havana. Of these only 27 are regarded as being dangerously ill. Sixty of the men have been ill with typhoid fever, and 59 with malarial fever. All were transferred to the Josiah Simpson General Hospital; most of them walked ashore.

Professor Rutherford's Successor.—Among the candidates prominently mentioned, according to *Science*, for the chair of Physiology left vacant by the death of Professor Rutherford, the late Professor of Physiology at Edinburgh, are Professor E. A. Shäfer, Dr. William Stirling, the English editor of Landors' "Text-Book of Physiology," Drs. D. N. Paton, E. Waymouth Read, and at least one American, Dr. G. N. Stewart.

Obituary.—At a recent meeting of the Harlem Medical Association of New York resolutions of regret and sympathy were adopted expressing appreciation of the scientific work and high character of Dr. Willard A. Heacock, whose death has been reported. The New York Celtic Medical Society has also recently passed resolutions of sorrow and regret at the death of one of its fellow-members, Dr. T. J. McGillicuddy.

New York Dispensary Report. — In the 109th annual report of the Board of Trustees of the New York Dispensary for the year 1898 it is stated that the Treasurer has

received from all sources $28,060.11, and had a balance January 1st of $10,892.94. Since its foundation in 1790 there have been treated in the dispensary 2,666,218 patients; during the past year 50,133 patients were treated at the dispensary, and 3214 at their homes.

The American Medical Association.—The secretaries of the various sections of the Association are now making up the final programs of the meetings. It is important, therefore, that all those who desire to present papers should send at once the titles and their names in full to the secretary of the section before which they wish to appear. The officers of the various sections and their addresses were published in full in the MEDICAL NEWS of April 1st.

Money for Free Hospitals.—The Distributing Committee of the Hospital Saturday and Sunday Association of New York City, met on April 15th and apportioned about $70,000 to hospital funds. About $9000 was disposed of in accordance with special bequests. After deducting $3000 for general expenses $58,000 was apportioned among the various free hospitals in this city, the apportionment being based on the number of days of free treatment in each hospital.

The New York Colored Home and Hospital.—The sixtieth anniversary of this institution is to be celebrated on Saturday, April 29th. The main feature is to be the dedication of the new buildings erected last year at One Hundred and Forty-first street and the Southern Boulevard. These buildings include a district general hospital department, with a modernly equipped operating-room; a maternity pavilion, and a phthisis pavilion, in addition to a convalescent and home department.

"The Practitioner's" Cancer Number.—The last number of *The Practitioner*, the London monthly medical journal which, under the able editorship of Mr. Malcolm Morris has come to be one of the best of the medical monthlies published in English, is entirely devoted to cancer. Among the articles are: "A Further Inquiry into the Frequency and Nature of Cancer," by Roswell Park, which appeared simultaneously in the MEDICAL NEWS; "The Medical Geography of Cancer in England and Wales," by Alfred Haviland; "The Local Distribution of Cancer and Cancer Houses," by Darcy Power, and "The Treatment of Inoperable Cancer," by William Coley of New York.

The Insane in the State of New York.—The annual report of the New York State Commission in Lunacy was presented to the Legislature at Albany on April 10th. The committed insane of the State, public and private, at the close of the year numbered 22,386, of whom 20,845 were in the State hospitals, 686 in the Matteawan State Hospital for Insane Criminals, and 855 in private institutions. The number of original admissions during the year was 4473. There were 1757 deaths, and 1018 patients were discharged from the State hospitals as recovered. The net increase in asylum population was 683. The average daily per capita cost of food supplied for the insane of the State is now 15⅓ cents.

The Army Beef.—Most of the testimony given concerning the beef used by the United States Army in the late war has been condemnatory. It is only fair to present some which is the reverse. On March 31st Colonel and Assistant Surgeon-General Charles R. Greenleaf, who was with General Miles at Puerto Rico, testified that he had no fault to find with the refrigerated beef; that the only important complaints he had heard related to the character of the cooking; that the canned beef, although unpalatable, did not seem to him detrimental to health, and that he attributed the sickness among the soldiers solely to the climate. On April 5th Professor Chittenden of Yale testified before the Court of Inquiry that all the canned samples were within the range of good food, that his analyses failed to disclose any trace of salicylic or boric acid, and that all the canned beef contained proteids in good proportion.

The Health of the Pope.—So much that is contradictory has appeared in the daily papers as to the Pope's health that the following account of it gathered from authentic sources by the Roman correspondent of the *British Medical Journal* will be of interest to medical men. He says: "Notwithstanding the alarming reports that have lately appeared in some of the English and Continental papers I am able to state on the authority of Professor Mazzoni (who did the operation) that the health of the Pope is now (end of March) very satisfactory. The operation wound has been quite healed for some time and His Holiness has resumed his ordinary duties and occupations. He naturally still feels a little weak from loss of blood and the effect of the operation; but I learn from other sources that he is very cheerful, that his mind is as clear as it has ever been and that he has lately seen many persons besides those he has to see in an official capacity."

The American Public Health Association.—At the meeting of this Association, held in September, 1898, it was decided to organize a standing committee of the Association, composed of those actively engaged in laboratory work in connection with health boards. The chief development in sanitary science is dependent upon laboratory work, especially bacteriology, and therefore it has seemed desirable to have some central organization which could further this work both in scientific and practical directions. A temporary organization has been effected, and the first general session of the committee will be held October 30, 1899, the day previous to the opening session of the general meeting at Minneapolis. Professor Welch of Baltimore will act as honorary chairman. The line of work proposed is the presentation of original short papers giving summary reports of work accomplished during the year; also reports of cooperative investigations, etc. Further information may be obtained from Dr. Wyatt Johnston, 74 Shuter street, Montreal.

The New York Board of Health May Stop the Sale of Its Serum.—On Saturday morning, April 15th, by special appointment Colonel Michael C. Murphy, President of the Department of Health, gave an audience to a delegation of

physicians, druggists, and business men who presented the desirability of discontinuing the sale, by the Board, of its surplus serum. The office of the President of the Board of Health was crowded with those who appeared in favor of this movement. President Murphy replied in very frank and encouraging statements of his aims in the matter. He deprecated anything which might seem to be a reflection on the probity of the department involved in some late criticisms in the lay press. He said that at the present time the ablest of the clerical staff of the department were engaged in compiling for his information the full figures of the business done in the sales of antitoxin and other statistics which would assist him in coming to a decision. He said that he had been informed by some physicians that antitoxin would keep for but fifteen days, and if that were so it seemed to be an argument in favor of the sale of the article by the city. He had just been told by Dr. Wilcox of the opinion of one expert that antitoxin would keep for eighteen months, and after that would deteriorate but slowly. This was new to him, and he should like further information on that point. Colonel Murphy spoke with much feeling of the care which he gave to superintending the operations of the Department of Health and made it plain that in all that was done in this antitoxin, as in other matters, his first thought was to secure the best results for the city. Further, he said that he was convinced that the Department should stop the manufacture of antitoxin except for its own use or for any emergency that might arise. In this friendly interchange of opinion evidently lies the hope of this reform. It is entirely in consonance with the suggestion recently advanced by the MEDICAL NEWS.

Loomis Laboratory Is Sued.—The New York University has applied for an injunction to restrain the Loomis Laboratory from in any way excluding the professors and students of the university from enjoying its use. It is further claimed that the Laboratory Trustees have threatened to hand it over to another institution. The complaint states that the university was incorporated in 1831, and that the Loomis Laboratory was founded by Dr. Alfred L. Loomis in 1887. Afterward a friend of Dr. Loomis, who belonged to the New York University, contributed a large sum of money and the laboratory was built, privileges to use and enjoy it being extended to the faculty and students of the university. It is alleged that in 1897 certain of the trustees of the laboratory became disaffected and resigned, and then took advantage of the positions which they had held to deprive the professors and students of the university of the privileges which they had enjoyed. On April 14th a bill was passed in the Senate at Albany authorizing the Loomis Laboratory to convey its real and personal property to Cornell University.

Prussian Hospital Investigation of Experiments on Patients.—Dr. Bosse, the Prussian Minister of Education, has ordered an investigation into Professor Foerster's charges that experiments, sometimes of a serious, even dangerous character, are performed upon patients in Prussian hospitals. The University Clinic at Breslau is especially charged with being the seat of such experiments. The matter came up first in the Reichstag on March 11th. Undoubtedly much exaggeration has been indulged in in the statement of the liberties taken with patients, but there seems to be reason to infer that indiscretions had been tolerated. A thorough investigation, in which both sides may be heard, will be welcome to the medical world. For some time we have been flooded by a deluge of unsubstantiated reports of experiments upon human beings in various Continental clinics. The names of certain men, well-known in medical literature, and whose work for medical science places them deservedly high in the estimation of the medical profession, have been dragged into the matter, and an opportunity will be afforded them to rebut the exaggerated, detracting reports that have gone abroad.

CORRESPONDENCE.

THE DANGERS OF INCOMPLETE ANESTHESIA.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—The MEDICAL NEWS in a recent number gives a note of a death during tooth extraction, and giving advice never to begin operative procedures in chloroform narcosis until the patient is completely anesthetized.

I believe if reliable statistics were prepared they would show that more deaths were caused by chloroform, when being given for small operations, and especially those due to the extraction of teeth, than by any other cause. On investigation of these deaths it is generally shown that a very small amount of the anesthetic was used. This is where the danger lies, especially during the extraction of teeth. The clearest article on this subject is given by T. Lauder Brunton in "Disorders of Digestion." It is thus explained: "I mentioned that one cause of death during the extraction of teeth, under chloroform, was probably the stoppage of the heart's action through the inhibitory fibers of the vagus, associated with a reflex depression of tone in the blood-vessels. The reason why the extraction of a tooth in a person who is not under the influence of an anesthetic is followed by no ill effects is probably this: that in him the irritation of the fifth nerve produces two distinct actions which counterbalance each other. It may cause reflex stoppage of the heart through the vagus; but at the same time it causes reflex contraction of the vessels through the vasomotor center. This contraction of the vessels maintains the pressure in the arterial system during the stoppage of the heart, and thus no harm whatever is done. When an anesthetic is used, however, one of these pieces of nervous mechanism may be paralyzed by it while the other is not, and thus the extraction of the tooth may stop the heart without causing contraction of the vessels. The blood-pressure will then sink very rapidly in the arterial system and fatal syncope may be produced. If, however, the anesthetic be pushed to a greater extent, so that both parts of the nervous mechanism just mentioned are paralyzed, the vessels are not contracted, but neither is the heart stopped. The

operation is, therefore, comparatively free from danger when no anesthetic has been given, or when the anesthesia is perfectly complete, *the period of danger being that of imperfect anesthesia.*"

HARRY MORELL, M.D.

SLAYTON, MINN., April 12, 1899.

CONSCIOUSNESS DURING ANESTHESIA.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—In reference to the very interesting communication from Dr. Goldan, published in the last issue of your journal, in regard to the persistence of consciousness during chloroform anesthesia, I beg leave to report the following very similar case: Last spring I performed a plastic operation upon a patient for an extremely marked relaxation of the pelvic floor. The anesthetic—chloroform—was administered by Dr. G. G. Fischlowitz, and when the patient was put upon the table she was completely "under." During the course of the operation the doctor let her "come out" somewhat and noticed that she winced slightly. To test the depth of the narcosis he asked her whether she felt any pain, and was surprised to see that she nodded her head in response to his query. He thereupon added a few more drops of the chloroform on the mask, and this time his question as to pain met with an answer in the form of a negative shake of her head. He then, with great ease, kept her in the condition in which she was conscious of all that went on around her, yet had absolutely no pain. After her recovery from the effects of the anesthetic she assured me that, while fully aware of each time that I touched her, she had felt no pain whatsoever, and that, moreover, she knew all that had gone on about her, repeating conversation, recalling incidents, etc., exactly as Dr. Goldan's patient did. Her "coming out" was simply a restoration to full from slightly clouded consciousness and was characterized by an evident desire on her part to be left quiet and undisturbed, instead of the usual manifestations under such circumstances. She vomited some during the operation. Were it not for the total absence of pain throughout the operation one would readily and justly conclude that the case was one of incomplete anesthesia, but that one fact makes it clear to my mind that it was one which can well be classed with that reported in your journal.

Yours very truly,

L. M. MICHAELIS, M.D.

NEW YORK, April 15, 1899.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

STATE APPROPRIATIONS FOR HOSPITAL MAINTENANCE—THE NEW BUILDINGS OF THE GERMAN HOSPITAL—DANGERS OF HYDROGEN PEROXID IN SURGICAL CASES—EXTRA-PERITONEAL EFFUSION DUE TO SPONTANEOUS RUPTURE OF THE UTERUS—PERSONAL NOTES—OBITUARY—HEALTH NOTES—HEALTH STATISTICS.

PHILADELPHIA, April 18, 1899.

A DEPLETED State treasury is responsible for the lack of many appropriations which were counted upon for the erection of new buildings for various hospitals in this city and throughout the State, and for the small maintenance appropriations which have been made to many. All sums of money asked for erecting new buildings or improving old ones have been vetoed, and thus many contemplated improvements have been put aside for two years at least. Among the larger sums granted for maintenance for the two years of the present Legislature are the following: South Side Hospital, Pittsburg, $20,000; Philadelphia Polyclinic, $25,000; Pottsville Hospital, $20,000; St. Luke's Hospital, Bethlehem, $22,000; University of Pennsylvania Hospital, $50,000; Gynecean Hospital, Philadelphia, $20,000; Homeopathic Hospital, Pittsburg, $50,000; German Hospital, Philadelphia, $20,000; Allegheny General Hospital, $40,000; Jefferson Medical College Hospital, $50,000; Mercy Hospital, Pittsburg, $20,000; Hahnemann Hospital, Philadelphia, $50,000; Homeopathic Medical and Surgical Hospital Dispensary, Pittsburg, $50,000; Medico-Chirurgical Hospital, Philadelphia, $70,000.

While a vast amount more has been apportioned among several minor hospitals, the appropriations in general force the conviction that in this question, as in every other in which politics enter at all, political pull is much more a factor than merit, and some of the above allotments are as manifestly unnecessary as others are inadequate to meet the needs of the case.

John D. Lankenau, President of the Board of Trustees, last week formally turned over to the German Hospital, in addition to the Mary J. Drexel Home, which he erected, the new buildings which he has also erected in memory of his wife. The new buildings consist of a completely equipped hydropathic establishment, an enlarged and improved laundry plant, a new mortuary chamber, with additions for all scientific work which can be done close at hand. Extensive alterations and improvements in the three upper stories of the main hospital building have also been made.

At a meeting of the Philadelphia County Medical Society, April 12th, Dr. George W. Spencer read a paper on "The Dangers of Hydrogen Peroxid in Surgical Cases," in which he advised the utmost caution in using this agent in certain conditions. He believes that it has the power of forcing pyogenic organisms from the original focus to the deeper parts, thus setting up secondary infections, and quoted several cases to substantiate his views. One case was that of carcinoma of the left breast, in which, after the breast and axillary glands had been removed, peroxid was used to cleanse a small granulating surface. At the end of a few days, new sinuses had developed in various directions, and had extended down between the muscular layers. Spencer believes, further, that its explosive force in the tissues is very great, and that nerves, tendon-sheaths, and muscle-planes offer every advantage for its track. He gave a useful summary of the conditions and localities in which it is distinctly contraindicated. Dr. H. Augustus Wilson, in the discussion, called attention to the danger of using it in any cavity where the opening is small, and recalled a case of psoas abscess, which he knew of,

where the injection of peroxid was followed by a rupture of the abdominal wall, with protrusion of the intestines. He advises the use of compressed oxygen in place of peroxid, and said that he and his assistant, Dr. Rugh, had used oxygen with very satisfactory results. Dr. Mordecai Price protested against the use of injections of peroxid in any case, and said that if micro-organisms were found in places where the peroxid had burrowed, it would certainly show the uselessness of employing it, for it was evidently not only harmless to the organisms but harmful, in that it caused them to spread, and forced them into clean tissues. Dr. S. Solis-Cohen said that many labored under the delusion that peroxid was a germicide while it was not, its sole property being that of a cleansing agent for the removal of débris.

Dr. Reynolds Wilson reported a case of "Extra-Peritoneal Effusion Due to Spontaneous Rupture of the Uterus; Death from Pyemia." Labor progressed normally, the placenta being delivered fifteen minutes after the child was born, and until six hours later nothing wrong was suspected. As in most cases of "silent-rupture" pain, referred to the rectum, was not felt until this time, when it became quite severe, and was accompanied by uterine bleeding. On the second day, abdominal distention, bloody stools, and tenderness on pressure became manifest, and a tumor could be palpated. As the diagnosis was uncertain and the patient's condition poor, surgical interference was not resorted to, and death took place on the forty-fourth day from pyemia. The post-mortem showed that a hematoma had formed in the broad ligament, which had increased in size so as to finally give rise to pain and other symptoms. Later, infection had taken place from the vagina. In the discussion which followed, Dr. Richard Norris said that he had never had a case of uterine rupture, but, in his opinion, surgical interference was called for. Dr. Price spoke of three cases of rupture which he had seen, and stated that it was, in his opinion, generally due to version. He also believes in early surgical interference, and does not believe in running any chances with the idea that the hematoma may be absorbed.

Dr. Henry C. Chapman sails for Europe on Saturday, partly for pleasure and partly for the purpose of purchasing instruments for the laboratories of physiology which are to be opened in the new buildings of Jefferson Medical College next fall. A thorough practical course is to be given in physiology, with experimental work.

Dr. A. Robin of Philadelphia has been appointed State Bacteriologist of Delaware, and is to have charge of the bacteriology station at Delaware College. Dr. E. W. Cooper of Camden has been elected president of the State Board of Health, and Dr. Alexander Lomber of Wilmington, secretary.

Dr. James McAlpin Sommerville died at his residence in this city on April 11th of Bright's disease, aged seventy-four. He was celebrated as an artist, scientist, and scholar. Dr. D. L. McDonald died April 11th at his home in Shiremanstown, aged fifty-seven. Dr. William Blackwood, president of the Lancaster City and County Medical Society, died April 12th, aged seventy-one.

The epidemic of cerebrospinal meningitis which has been ravaging Lancaster seems to be about over, no cases having been reported for nearly a week. During the epidemic fifty cases with thirty-one deaths were reported to the Lancaster Board of Health.

The total number of deaths occurring in Philadelphia during the week ending April 15th, as reported at the Health Office, was 520, of which number 153 occurred in children under five years of age. The total number of new cases of contagious diseases was 351, reported as follows: Diphtheria, 50 cases with 18 deaths; scarlet fever, 50 cases with 4 deaths; typhoid fever, 251 cases with 38 deaths.

MEDICAL MATTERS IN CHICAGO.

[From Our Special Correspondent.]

MEDICAL LEGISLATION IN ILLINOIS—MAYOR HARRISON ON SANITARY IMPROVEMENTS—SCARLET FEVER IN CHICAGO.

CHICAGO, April 18, 1899.

THE Illinois Medical Practice Act has passed the Senate and has been read a second time in the House. This act provides, as amended, that all candidates for the practice of medicine, except graduates of legally chartered medical colleges of good standing in Illinois, shall be examined by the State Board of Health. It also provides for partial examination for special departments or systems, but only those licensed fully in medicine and surgery shall have the right to call or advertise themselves physicians or doctors, and licentiates of other systems cannot use drugs or perform surgical operations, or those in midwifery attend other than labor cases. The State Board of Health can refuse certificates for conviction of criminal abortion or to those who have made fraudulent representations or been guilty of other dishonorable or unprofessional conduct, and can revoke them for the same reasons after hearing before the Board. Itinerant venders of nostrums, etc., shall pay a license fee of $100 per month. The usual exceptions of those already licensed, medical officers of the army or navy or Marine Hospital Service are made, aud there is also a special exception of those who treat the sick by mental or spiritual means without drugs or material remedy. Penalties are provided for infraction of the law.

Another bill of medical interest, now on second reading in the House, having passed the Senate, is one amending the law of corporations which requires the Secretary of State, on recommendation of the Attorney-General, to revoke the charters of fraudulent diploma mills. Still another bill before the House is one to establish an epileptic colony, and making a preliminary appropriation for selecting a site for the same.

Carter H. Harrison, who was reelected Mayor of Chicago, in his second inaugural address, April 10th, took occasion to pay a tribute to the Chicago Health Department, in speaking of the financial value of sanitary improvements. He said: "The tabulations and deductions indicate, among other things, the unceasing vigilance of the Health Department in all matters affecting the public health. In many respects it now stands among the very

foremost of similar establishments in the world. It was the first to use the glycerinated vaccine, which has done more to popularize vaccination than anything in this connection since Jenner's day. Its work in the treatment of diphtheria, by which the mortality of the disease in this city has been reduced from more than thirty-five to less than seven in every hundred cases treated by its medical inspectors, its investigations of the germ of influenza and the resulting improvement in the methods of dealing with this disease, and, still more recently, its identification of the organism of scarlet fever which makes it possible that this scourge of the nursery shall be handled as successfully as diphtheria now is—are attracting the attention of sanitarians both in this country and abroad. The *British Medical Journal* has editorially commended to the attention of the local Government Board of London the sanitary machinery of Chicago in dealing not only with smallpox, but with diphtheria and dangerous infectious diseases. Chicago has reason to be proud of its Department of Health."

Scarlet fever is prevalent in several of the school districts and every precaution is being taken to prevent a spread of the disease among the children. The Department of Health has had reported to it by physicians, during the last week, one hundred cases of scarlet fever and diphtheria, principally among children.

The number of diphtheria cases among adults has been so large during the same time that the wards of the county hospital are too crowded to admit more patients. This also applies to the scarlet-fever ward. A number of cases reported to the hospital were refused admission because of lack of room. If the disease continues to increase until it assumes the proportions of an epidemic some provision for the care of the victims must necessarily be made by either the city or county. Chairman Healy of the Public Service Committee says that the county is powerless to act at present, and that, as it is the duty of the city to care for the indigent sick when the wards of the hospital can no longer receive patients, it is expected the city will make arrangements for caring for any more victims of either disease who might be thrown on public bounty.

The scarlet fever prevalent among children is of a mild type, and except in comparatively few cases has not proved fatal.

OUR LONDON LETTER.

[From Our Special Correspondent.]

THE PRESIDENCY OF THE COLLEGE OF PHYSICIANS CONFERRED ON DR. W. S. CHURCH—INHUMANITY OF MILITARY PUNISHMENT—ROYAL COMMISSION ON LONDON'S WATER-SUPPLY—THE MICRO-ORGANISM OF CANCER—WORTHLESSNESS OF CERTAIN WIDELY ADVERTISED SUBSTITUTES FOR COD-LIVER OIL—RANDOM NOTES.

LONDON, April 7, 1899.

THE annual election of the College of Physicians resulted in conferring the honor of the Presidency upon Dr. William S. Church, Senior Physician to St. Bartholomew's Hospital. The sacred principle of official seniority would appear to have been most potent in this selection, as, although the new president's scientific attainments are most respectable yet the bare list of some of the names which were prominently mentioned for the position—Hughlings Jackson, Dickinson, Broadbent, Gee — is enough to suggest at once the cynical old proverb about a prophet in his own country.

A good deal of unpleasant comment upon the inhumanity of the military authorities has been caused by the sudden death of a young private in the Lancers in a military prison. The young fellow had been guilty of some slight offense against discipline, for which he was condemned to imprisonment with hard labor, the latter taking the form known as "carrying the shot," in which a small cannon-ball is carried *ad infinitum* from one to another of a circle of iron cups or sockets arranged round the room or yard, a perfectly asinine survival of the old primitive labor of the treadmill type, which has been abandoned almost everywhere else in the civilized world. To this punishment the offender demurred on the ground of illness and physical incapacity and the prison physician was called in. After a brief examination this worthy declared him to be simply malingering as, of course, he was bound to out of proper respect for the powers that be, and the young fellow was set to work with the shot, but suddenly fell and died with symptoms of heart mischief, after some twenty rounds. Even the official mind could now see that there was probably something worthy of real investigation in his case and a post-mortem was held, upon which the fearful and wonderful finding was rendered by a cabinet minister to an indignant House of Commons, of death by "blood-clot in the aortic ventricle," whatever that may be. We have all heard of the German clinician who always preferred to check his diagnosis by a post-mortem before giving a definite opinion, but there appear to be some army surgeons in England who can't make a decent diagnosis even then. As far as can be gathered from the admissions of the report death was due to aneurism of the aorta. To make the matter worse it was elicited during the discussion in Parliament that the physician who made the disgraceful "malingering" diagnosis was not even a registered practitioner. The entire distressing episode is a typical example of the strong natural tendency of officialdom toward both brutality and stupidity unless sharply watched and controlled by public opinion, and it has raised such a storm of indignation as will hardly be appeased by less than a thorrough modernizing and humanizing, as far as may be, of military punishment and prison discipline.

The Royal Commission upon the water-supply of London has at last concluded its sittings and its report may be looked for at no distant date. The water-barons are making a desperate fight to hold their lucrative monopolies, and to prove that water from the Thames and the Lea is not only harmless but even nutritious and much preferable in every way, to the storm-washings of a Welsh mountain valley. In spite, however, of all this, and of the natural reluctance of the public to spend enormous sums for protection against a hitherto merely possible danger the conviction is steadily spreading that the only course which will be either safe or adequate will

lie in the direction of securing a new and distant source of supply. As was well said in the County Council's Committee report filtration can only be expected at best to remove ninety per cent. of the bacteria, and if but one per cent. of the "survivors" happen to be typhoid bacilli, it would be more tolerable for Sodom and Philadelphia in the day of judgment than for London with its enormous "submerged filth."

Dr. T. Grigor Brodie of St. Thomas' Hospital has been appointed Director of the Conjoint Laboratory of the Colleges of Physicians and Surgeons to fill the vacancy caused by Sims Woodhead's removal to Cambridge.

At the last Royal Society meeting a short report was read by Plimmer, alleging the discovery of a new solution of that pathological "squaring-the-circle" problem, the micro-organism of cancer. He has succeeded in isolating from human carcinomata a yeast (saccharomyces), pure cultures of which, on injection into the tissues of guinea-pigs, are capable, in a small percentage of cases, of producing a large number of disseminated nodes or tumors throughout the entire body of the animal. As, however, these growths are all confessedly of mesoblastic origin they can certainly hardly be claimed as carcinoma, and from their rapid course (death in twenty days) and histologic characters they decidedly suggest some form of infectious granuloma. In only one case did Plimmer succeed in getting any epithelial proliferation in buds or processes and that was in the cornea and precisely such as occurs in the process of repairs after injury.

Robert Hutchinson has done an excellent little piece of work and rendered the profession a real service by carefully analyzing the stools of individuals taking petroleum in any form. As was long ago declared upon chemical grounds petroleum, vaselin, paraffin, etc., were absolutely unassailable by any of the digestive fluids and yet a large vogue has of late years been given to various petroleum emulsions as "substitutes for cod-liver oil"—chiefly by ingenious and unterrified advertising. Hutchinson tested the question physiologically by administering an emulsion in varying doses to a number of persons, the fat content of whose stools had been carefully ascertained, and then collecting their feces and extracting and estimating the additional fatty matters. In every case he succeeded in recovering within a few grams, in some cases to the very gram, of the amount of petroleum administered by the mouth. So that the nutritive value of the emulsions is absolutely *nil*, and as substitutes for cod-liver oil they are impudent frauds upon public and professional credulity as we have long suspected in spite of the array of expert "testimonials" so skilfully paraded by "Terralene" and others of its class. They may have a small value as lubricants and protectives of the alimentary mucous membrane, indeed the only results we have ever seen from them was in a patient who was delighted with the "nice, easy, greasy stools" they produced, although he complained of the continual oiliness of his clothing in the neighborhood of the anus.

The formal opening conversazione of the London Polyclinic and Medical Graduates' College is announced for May 1st, in their new building in Chenies street. The lectures and demonstrations begin May 3d. The institution has adopted as its motto the strikingly appropriate line from Browning: "It is the taught already that profit by teaching."

The Cremation Society of England held its quarter centenary last week under the distinguished presidency of Dr. Henry Thompson, whose official address took the form of a brief sketch of the history of the organization. The severity of its struggle for existence, "not against flesh and blood, but against the powers of (scientific) darkness" in the form of the bishops, may be judged from the fact that it was prevented from erecting a plant at all for three years, and when at last it did attain one at Woking it lay absolutely idle for *nine years* under legal embargo except for the occasional cremation of a dog or sheep to prove to the local authorities that the process could really be carried out without giving rise to a public nuisance in the way of smells and fumes. And, in fact, the taboo was only removed at last by bringing a private case of cremation into court and getting a ruling from the bench declaring the process legal and permissible. Since this date its progress has been unhindered and the number of cremations rose from 3 in 1885 to 240 in 1898, making a total of 1283. A mere flea bite upon the total of burials in England of course, but a fair start has been made and the process given a chance of proving its value and desirability.

The report of the Royal Commission upon the question of lead as a glaze in the potteries is attracting wide attention. The commissioners show that about 1 in 300 of the workers employed in the glazing and firing departments of English potteries die of saturnism, and that for some curious reason girls are nearly three times as susceptible to the poison as boys and men. Probably from their inveterate habit of eating and "nibbling" between meals at their work. In view of these facts Drs. Oliver and Thorpe recommend that the use of raw lead as a glaze be absolutely forbidden, and the employment of girls in certain branches of the work be prohibited. Unfortunately, however, it seems to be admitted upon all sides, as confessed by Mr. William Rix in his recent lecture before the Society of Fine Arts, that while various leadless glazes have been invented, none of them will give the high gloss so dear to the housewives' hearts so certainly and so cheaply, nor is the finish produced by them as permanent. And as the dear public in spite of its sentimental sympathy for the workers, and enthusiasm for reform, will insist on having the handsomest pottery it can get for its money the conscientious manufacturer finds himself at a great disadvantage in the market. If, however, the Government would take vigorous action, as it certainly should, and place all makers upon the same level by absolutely forbidding the use of raw lead as a glaze no one could complain of unfairness, and both the worker and the public would be protected. We say the public because the experts have demonstrated the reassuring fact that some makers are so liberal with their beloved glaze that the pottery has enough plumbic deposit on its surface to impart distinct traces of lead to milk or other fluids kept in it.

The shameful injustice done poor Dr. Hunter, the L.S.A. who was prosecuted by a small-souled committee of the General Medical Council for putting "Physician" upon his door-plate is like Banquo's ghost, it "will not down" even after the victim's death. Some kind-hearted members of the profession whose humane feelings have not been frozen by lofty official position have been making inquiries into the financial condition of Dr. Hunter's young widow and find that their little all was invested—after the cheerful English fashion—in the purchase of a practice which was not only ruined, but its "reversion" rendered utterly valueless by the outrageous attack of the Penal Committee, so that the poor lady is practically destitute save for the outstanding accounts upon the doctor's books. A subscription for her benefit has accordingly been started in the columns of the medical journals and the profession is responding liberally. If the Penal Committee have any sense of the fitness of things left they will head the list as the least atonement they can offer.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

EFFECT OF COLD ON THE LIFE OF NEW-BORN CHILDREN—MOTHER AND CHILD IN AN EXTRA-UTERINE PREGNANCY BOTH SAVED BY OPERATION—VOLVULUS OF THE SIGMOID FLEXURE—REDUCTION OF CONGENITAL DISLOCATED FEMUR—ANEURISMAL VARIX FOLLOWING A GUNSHOT WOUND—RESECTION OF THE SPERMATIC VESSELS FOR PROSTATIC HYPERTROPHY—A SPRAIN OF THE SACRO-ILIAC JOINT—OBSCURE SYMPTOMS OF GASTRIC ULCER—DISADVANTAGES OF PROLONGED INTUBATION—CHRONIC JAUNDICE FROM BILIARY INFECTION—ACTINOMYCOSIS OF THE JAW.

At the Academy of Medicine, March 14th, BUDIN said that he had observed 142 new-born children in whom the rectal temperature was 33° C. (91.4°F.) or less. Of these 139 died, giving a mortality of 98 per cent. The low temperature was not the only cause of death. Some of the children had syphilis, digestive disturbances, and so forth; but it is none the less true that the reduction in temperature was the chief factor. If every precaution is taken to keep up the temperature of the debilitated children from the time of birth, at least three-fourths of them can be saved, as statistics prove.

LUCAS CHAMPIONNIERE thought that cold plays an important part in the life and death of children which are born healthy, as well as those which are born debilitated. One cannot insist too much upon all measures which are calculated to keep up their heat. Among bad practices is the habit of nurses to bathe the child. Carried out as this usually is, the practice is none other than murderous.

PINARD showed a woman aged thirty-seven years, upon whom he had made a diagnosis of extra-uterine pregnancy at the sixth month. Six weeks later the abdomen was incised, and the child extracted. Both mother and child did well. The latter weighed 2875 grams (6 pounds) at the time of its extraction, but in three months its weight had nearly doubled. This might surely be spoken of as conservative obstetrical surgery.

At the Surgical Society, March 15th, ROUTIER mentioned a case of volvulus of the sigmoid flexure, treated with success by laparotomy. The patient was a woman who for five days preceding the operation had passed neither gas nor feces per anum, and whose abdomen had gradually distended in an even manner. The sigmoid was twisted from left to right, making a complete turn. For a year before the obstruction became complete, there had been several attacks of colic, which were explained, in the light of the lesion found at operation, as abortive attempts of the bowel to become obstructed.

MONOD showed a girl upon whom he had performed Lorenz' bloodless reduction of a congenital dislocated hip two years previous. The functional result was excellent.

KIRMISSON pointed out that the head of the femur in the case before them was not in the socket, but rested on the external surface of the ilium between the anterior superior and anterior inferior spines. While not denying the benefit obtained in a certain number of cases from Lorenz' operation, he thought that it was in only very rare instances that the head of the femur was really restored to its normal position.

BRUN said that he had employed the method referred to in many cases and that since seeing Lorenz himself operate he was convinced that imperfect results were due in part to a too gentle manipulation in the forcing of the head of the bone into its true position. He showed a number of radiographs, some of which proved that the head of the femur was in the cotyloid cavity, although the neck of the bone presented the characteristic deformity of coxa vera; while in others it could be seen how without the complete reduction there is sometimes a great improvement, and one capable of making still further progress. Perfect reduction is almost always possible in young persons, in whom the slightly developed muscular system opposes only a slight resistance comparatively speaking. His cases were too recent to permit him to speak of the final results.

CHAUVEL was called to see an officer who was shot in the hip. Six days later a swelling appeared at the lower and inner portion of the thigh, from which the ball was extracted, leaving a wound which healed by primary union. Later an aneurism appeared in Scarpa's triangle which had all the characteristics of an aneurismal varix. An incision was made over it, the vessels were ligated in four places, and the aneurism was dissected out. Such cases are extremely rare.

March 22d, MONOD spoke of a case of hypertrophy of the prostate causing retention of the urine. He punctured the bladder several times and then succeeded in getting a catheter into the bladder. He left the instrument in place but it was ill borne. The vessels of the cord were exposed and ligated, and in a very short time the catheter was well borne, and soon the patient was able to pass water voluntarily. The testicle underwent a slight atrophy, but did not at any time threaten to necrose.

REYNIER said that resection of the vas deferens gave the same relief as that mentioned by the speaker, and avoided the risk of affecting the testicle. He mentioned several successful cases, one that of a gentleman upon

whom a double operation had been performed. After three years there was still freedom from prostatic hypertrophy, while the sexual power persisted.

BAZY was unwilling to admit that resection of the vas deferens could produce any such results as had been attributed to it. He looked upon the cures narrated as mere coincidences. He had seen freedom from retention follow a simple catheterization. On the other hand, resection of the vessels of the cord, while it is often followed by atrophy of the testicle, has an undoubted effect upon hypertrophy of the prostate.

At the Medical Society of the Hospitals, March 10, 1899, GALLIARD told of a man who as the result of a violent effort, suffered a very acute pain at the lower end of the spinal column. The trouble was at first thought to be lumbago, but more careful examination showed the pain to be localized over the right sacro-iliac articulation, where there was a small ecchymosis. There was a sprain of this joint in other words. During a week's rest in bed the patient suffered no inconvenience, but when he got up and attempted to go to work, he had pain in the back of the hip and thigh, as low down as the knee. As there was no trouble with the bladder or rectum, it seemed probable that the pain was due to a neuritis of the lesser sciatic nerve.

FLORAND mentioned the case of a man aged forty years who died suddenly while at work with all the symptoms of internal hemorrhage. At autopsy there was found a stomach full of blood which had issued from a small ulcer of the lesser curvature. The man had never had symptoms which had been diagnosed as due to an ulcer of the stomach, but had complained of intense paroxysmal pain along the edge of the false ribs of the left side, and upward into the sternum. He was treated for this by several physicians, and once was put upon a milk diet, but all without benefit.

RENDU said that he had under his charge a girl with symptoms similar to those mentioned. She had attacks of pain radiating along the sternum. They only occurred when the stomach was full, and in the upright position. He thought that there was a perigastritis with an adhesion between stomach and diaphragm. Certainly such attacks of pseudo-angina ought to make one think of the possibility of a gastric ulcer.

March 17th, SEVESTRE spoke of the treatment of spasm of the larynx, necessitating prolonged intubation or tracheotomy. Under such circumstances there is generally an ulceration of the space below the glottis. In order to avoid this, the tube should be withdrawn after it has been in place for two or three days, and it should not be introduced again, unless threatened suffocation makes it imperative. Such attempts at discontinuance should be repeated at intervals for six or eight days, though if the tube comes out bright one may replace it with the knowledge that there is no ulceration. If, however, it is discolored, it should not be allowed to remain in place longer than a week. If then the child cannot get on without it it is better to perform a tracheotomy. Practised thus early the results which follow tracheotomy are better than if it is longer delayed. In any event the remedies likely to reduce spasm, such as bromids, chloral, codein, antipyrin, cold applications to the chest, etc., must not be neglected. If there exist foci of bronchopneumonia, it is a delicate question whether tracheotomy or prolonged intubation will be productive of the least harm.

MARCH 24th, HAYEM mentioned that he had recently seen four cases of chronic icterus, in which the skin was about the color of the skin in xanthochromia, rather than that seen in acute jaundice. The stools were neither decolorized nor bilious. There were no biliary pigments in the urine. The liver was slightly increased in size; the spleen was normal. The icterus developed gradually and persisted a long time in varying intensity. All of these patients suffered from indigestion, and all were neurasthenic with a marked tendency toward nosomania. In the light of these facts he looked upon the icterus as due to a secondary infection of the biliary passages.

At the Society of Dermatology and Syphilography, March 9th, LEGUEU showed a patient who began to complain last July of violent pain in the left side of the head without any apparent lesion. Five months later a swelling appeared in the mastoid region of that side, and still later at several points on the left side of the neck there appeared swellings which seemed to proceed from the deeper to the more superficial parts, and finally to reach the surface and discharge a thin fluid with characteristic grains of actinomycosis. The patient had been put upon the iodid of potash in large amounts, with an irregular improvement.

BESNIER mentioned a similar case in which the only symptoms for five or six months were pain and difficulty in opening the jaw. The diagnosis was not made until the swelling appeared and discharge took place. Now he endorsed the aphorism of Poncet, that "every patient who without apparent reason cannot open his mouth, has actinomycosis."

SOCIETY PROCEEDINGS.

THE GERMAN MEDICAL SOCIETY OF NEW YORK.

Regular Monthly Meeting, Held at the Academy of Medicine, April 3, 1899.

THE President, DR. HERMANN G. KLOTZ, in the Chair.

DR. FREUDENTHAL presented a case of osteosarcoma of the nose and of the upper jaw. The patient first presented herself for treatment only eight weeks ago because of what she thought was a cold in the head, with persistent plugging of the nostrils, especially the right one. Examination disclosed the presence of a hard tumor in the region alongside the right nostril, which bled very easily and invaded and occluded the nostril. The patient knew that there was a swelling in the upper jaw, but attributed it to a chronic inflammatory condition at the roots of the upper teeth, so that the tumor had been allowed to become inoperable before consulting a physician. It had been very difficult to secure from within the

nose portions of the tumor for microscopic examination. The snare slipped off the hard tumor itself and caught only portions of the overlying soft tissues. Enough however, had been secured to substantiate the diagnosis of sarcoma.

Dr. Heitzmann had examined portions of the tissue removed from within the nose, and said that it was sarcomatous, with a mixture of certain mucoid elements, that is, was a myxosarcoma. The only difficulty had been in differentiating it from syphilis. Typical granulomatous masses were not so frequent as they would have been if it were syphilitic, and the blood-vessel changes were rather those of a neoplasm than of syphilis.

Dr. Gerster presented a case of fracture of both bones of the arm, caused by a kneading-machine in a bakery, that had healed with considerable deformity and the production of a false joint, making the arm almost useless. He had grooved and morticed the bones so as to preclude motion in the ends, and had fastened them with silver wire. Good union it would appear was going to eventually result.

Dr. H. J. Boldt presented an eight-months fetus that had been removed from the abdominal cavity. The case had all the appearances of being one of primary abdominal pregnancy. The fetal sac had practically all disappeared. The specimens had been sent to Professor Welch at Baltimore, however, and he had found some of the fimbriæ of the tube still adherent to the sack. The right tube was lengthened but seemed healthy, and it had been thought to have been merely the seat of an old salpingitis. But it was evident on further consideration that the pregnancy had originally been tubal, but rupture had taken place at a very early period. The pregnancy had continued in the abdominal cavity, the placenta securing its nutrition by adhesions to the intestines. The patient recovered promptly after the operation for the removal of the products of the extra-uterine pregnancy had been done, and has had no sequelæ of the serious condition.

Dr. Achilles Rose read a paper on

THE TERM "APPENDICITIS" AND OTHER UNSCIENTIFIC WORDS THAT HAVE FOUND THEIR WAY INTO MEDICAL LITERATURE.

Dr. Rose considers that the hybrid term appendicitis, a Latin word with a Greek termination, and other such inconsistent compounds deserve no place in serious scientific medical literature, and suggests that in the formation of such words when they are to be Greek derivatives in form the genius of the living Greek language as it still exists and the usages of the modern Greeks in their own tongue should be consulted. The trouble in suggesting a substitute for our present hybrid term is that the idea conveyed by the word is comparatively new and has spread from America, the land of its discovery, but gradually. The modern Greek medical men have as yet adopted no definite medical term for themselves, but have clung for the most part to the old terms, paratyphlitis and perityphlitis, understanding of course that in the majority of these cases the appendix is primarily at fault.

The term for appendix in Greek is skolex, σκόληξ, so that it is probable that the term used by Professor Nothnagel, in the volume of his special pathology and therapy on "Intestinal Diseases," namely, skolekorditis, will be the one eventually adopted by the Greek physicians. It constitutes the most logical term and is philologically faultless. Other terms without the hybrid character of appendicitis have been suggested by various writers, but it does not seem that any of them will attract serious attention enough to be adopted. Professor Küster of Marburg, for instance, has suggested epityphlitis, the appendix being the epityphlon, or addition to the typhlon or cecum. Then ecphyaditis is unobjectionable, but too unfamiliar and unusual.

If the present agitation as to the undesirability of appendicitis and like terms does not accomplish any more than to arouse the attention of discoverers to the propriety of being sure of giving properly constructed names to their discoveries before launching them on the ocean of medical literature it will not be without an effect worthy in a certain degree of the effort expended on it. As it is we are being deluged with the most outlandish words—colpitis and pericolpitis, conjunctivitis, and the like. Even very familiar words of seemingly legitimate origin prove not to be so on closer examination. Polypragmasia, a word of Greek elements it is true, but utterly opposed to the genius of the Greek language, is coming in. The word polyclinic is open to the same objections. It would better be astyclinic, a city or public clinic. Pathology, in the sense it is used in the titles of German text-books on the practice of medicine, "Pathologie und Therapy," should rather be nosology. The science of diseases not the science of suffering is intended. Pathogeny, the origin of suffering, should always give way to nosogeny, the science of the origin of disease. To keep our Greek medical derivatives etymologically correct there should be an international committee of medical men, with regular sessions at Athens, a sort of academia della crusca græca,

In discussion Dr. Arpad Gerster said that while the term appendicitis is undesirable from a philological standpoint he thinks that it has secured such a firm foothold in medical literature all over the world that it will be impracticable to attempt at this late day to replace it by some more correctly derived term.

Dr. Abraham Jacobi said that entirely too much weight is given to the hybridity of appendicitis by advocates of consistency and correctness in terminology. These men, even so great a purist as Virchow himself, used the word terminology without objecting to it, and yet it is a compound of *terminus* from the Latin and λογος from the Greek. There are too many such hybrid words that have crept into general medical usage for us to hope to eliminate them all. Dr. Jacobi himself has always insisted on using the term amygdalitis in preference to the hybrid formation tonsillitis, but the looks on his hearers' faces have often compelled him to explain what he meant. We cannot hope to utterly replace by other more correct terms such commonly known expressions as vulvitis, ovaritis, vaginitis, strumitis, conjunctivitis, mediastinitis, and the like, however, incorrect

they might seem to be, and how much so ever they might make the utter purists in language shudder. There is just as important a series of errors committed in the pronunciation of medical terms, yet there is not so much protest in the matter. If we are to follow the genius of the Latin language we should say abdomen (long o), not abdomen (short o); vertigo, *ee*go, not vertigo (short i); tinnitus, long i, not short i. While, if we follow the Greek in the same way we should say, diágnosis (accent on the ag and short o), not diagnosis (with long accented o); diapedesis, not diapedésis; diaphóresis, long *e*, not diaphresis, long *e*.

Even the Latins themselves had not been what might be called perfectly consistent in the formation of words in their own language; from dens, for instance, they derived the objective dentatus; from mens, mind, mentalis; from menses, months, menstruus and menstrualis; from mons, montanus; from pons, pontilis, and so on. Too much in the matter of word-consistency should not be demanded then of the moderns. Usage is more powerful than any set of iron rules and will prevail in the end. As for himself Dr. Jacobi finds pathology and pathogeny quite as good as nosology and nosogeny, and thinks it is hypercritical to find fault with them.

DR. R. STEIN then read a paper on

SOME EXPERIENCES WITH APPENDICITIS.

It contained a very exhaustive review of the whole subject, notable, especially, for its excellent division of the various forms of appendicitis that occur, and pointing out that the indications for treatment depend not so much upon the recognition of the patient's condition as appendicitis as upon the form of the affection that he is suffering from. The advance to be made with regard to the disease lies in the clinical differentiation of the limits of various types of the disease, and consequently the method of treatment suited to a given case. Dr. Stein pointed out, however, that by universal agreement of all the authorities appendicitis is to be considered as much a surgical as a medical affection, and that from the very beginning the possibility of surgical intervention without undue delay should be considered.

DR. HENRY J. WOLF'S paper on "Experiences with Appendicitis," and the discussion of the subject was left till the next meeting, which will take place not on the first Monday of May because many members will be absent in Washington at the meeting of the Association of American Physicians, but on the second Monday, May 8th.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held April 6, 1899.

THE President, DR. W. H. THOMSON, in the Chair.

The first paper of the evening was read by DR. FRANCKE H. BOSWORTH on

SYPHILIS OF THE RESPIRATORY PASSAGES.

He said that so much has been written on syphilis of the respiratory passages of late years that he felt that his communication should be limited to his personal experience. The most striking thing about syphilis is its absolute latency for long periods of time, and then its sudden manifestation like a bolt from a clear sky. Sometimes hopeless damage is done before the significance of symptom is clear. In no part of the body is this more true than in the nose.

The ordinary syphilitic lesion of the nose is familiar to every practitioner. It is the gummatous infiltration of the tissues, including the periosteum, and the breaking down of the exudate, with necrosis of bone. It is recognized extremely rarely while as yet only in the gumma stage. Dr. Bosworth has seen it in a large practice only a few times. It is as an ulcer it is presented for treatment, and as a rule the bone is affected before treatment is begun. Syphilitic processes in the nose without necrosis of bone are very rare, almost as rare as necrosis of bone in the nose which can be traced to another than a syphilitic origin. The necrosing ethmoiditis of Wolfe should not be classed, as Dr. Bosworth has shown very clearly, as a true necrosis. Only recently in consultation he had been asked to see a case in which gonorrhea of the nose was supposed to have been the cause of necrosis, but it proved to be syphilitic, and it is extremely doubtful if the gonococcus can ever cause in any part of the body necrosis of bone.

In the mouth and pharynx and throat we see some of the most typical lesions of syphilis, lesions that enable us to recognize the disease at all stages. There is especially a tendency to infiltration of the upper layer of the mucous membrane. The mucous patch, the most frequent lesion, consists of degeneration of the epithelial layer. There is no occlusion of blood-vessels, hence no necrosis of tissue, only epithelial degeneration, but the lesion is very obstinate to treatment. As it is very contagious and very bothersome to the patient, the indications for prompt, vigorous treatment are manifest. It should be touched with nitrate of silver frequently and persistently until it disappears. One of the most curious things about the mucous patch is its well-known tendency to reproduce itself in exact outline, to imprint itself, as it were, wherever it comes in contact with another mucous surface. Quaint symmetrical lesions result from this tendency.

Besides the mucous patch, syphilitic ulcers occur in the pharynx and fauces. The characteristics of this lesion are very marked, and it is not difficult as a rule to recognize it. It is deep and angry-looking, with punched-out edges, its base covered with yellow pus and with a dusky-red areola. There is a noticeable feature of it in its hesitancy at crossing anatomical boundaries. If originally on the velum palati, for instance, it limits itself to that structure, though it may produce serious and extensive destruction in it.

There are only three possible causes for ulcer in this region: syphilis, tuberculosis, and the breaking down of neoplastic tissue. Other forms of ulcer are often mentioned as occurring in this region, but that is due to a misconception of the meaning of the term ulcer. Any abrasion in the mouth becomes covered with a whitish coating, and is spoken of as an ulcer; slight erosions of

the mucous membrane are sometimes erroneously called ulcers. It is well to bear in mind the classic definition of Erichsen and apply it strictly. An ulcer Erichsen defined as "a solution of continuity with a progressive waste of tissue." With this as a test ulcers are not so frequent. So-called scrofulous ulcers Dr. Bosworth has invariably found to be syphilitic, due to hereditary syphilis or to the disease acquired very early in life.

In children syphilitic ulcers of the respiratory passages may be fulminant in character. Dr. Bosworth has seen necrosis of the bones of the nose in a child six weeks old. In a child of eight years suffering from acquired syphilis he has known bony necrosis to occur in the nose within six months after infection. Despite the serious character of syphilitic lesions of the respiratory passages, they are very amenable to treatment. It is one of the greatest pleasures a medical man can have to see such serious conditions clear up promptly under specific treatment.

The disease is essentially localized in its manifestations. Only those tissues break down that have been the seat of gummatous infiltration. Any true progressive character is not present. The explosive action of the disease is its marked characteristic, but the syphilitic virus seems to exhaust itself in this purely localized gummatous explosion. We are accustomed to think too much of nasal syphilis, especially as progressive, but it is only an apparent progress due to the fact that from the very beginning there was a widely diffused gummatous infiltration of the nasal tissues. For the essentially local disease local treatment is the capital indication. Dead bone should be removed as soon as possible, because like a sequestrum anywhere else it acts as a local irritant, and with the syphilitic virus in the system chronic inflammatory processes are apt to be especially active.

In the pharynx syphilitic ulcers, if at all deep, are apt to be followed by vigorously contractile cicatrization. The whitish bands of the scar tissue pull surrounding soft tissues out of shape. Treatment is powerless to prevent this result. This special inconvenience from cicatrization occurs only in the food tract, the mouth, the pharynx, and the esophagus. It is much less marked in the larynx. It is extremely rare to see extensive cicatrization of the larynx except in old, neglected hospital cases where there has been very deep and extensive ulceration. Ulcers on the larynx, especially as soon as they affect the voice, are the subject of a great deal of anxiety on the part of the patient. This disquietude should be allayed by confident assurances of good results, for laryngeal syphilis, under anything like favorable circumstances, runs a comparatively mild course. Constitutional treatment is of much more importance for laryngeal syphilis than it is for syphilitic lesions of the nose and pharynx. Local treatment should not be neglected, but it is not the absolutely primal indication that it is in specific nasal affections.

Then followed the

DISCUSSION ON MALARIA,

which was to occupy the attention of the Academy for two meetings. The opening paper was read by Dr. Theobald Smith of Harvard University, and was entitled

RESEARCHES ON THE ETIOLOGY OF THE TEXAS CATTLE FEVER AND ITS BEARING UPON MALARIA.

Dr. Smith said in brief: Since Koch last summer in his talk before the German Colonial Society of Berlin on his researches into malaria in South Africa, had spoken of the probable analogy between Texas fever and malaria, the subject had attracted a great deal of attention. It did seem that what we knew of Texas fever and the life-history of its parasite could be assumed to throw light upon malaria and its parasite. We had known in this country for years that south of a certain line there existed an endemic cattle-disease which Northern cattle driven South often caught, and Southern cattle shipped North brought with them to infect healthy herds at the North. The infected territory practically included parts at least of all of the Southern States, though the northern boundary line, beyond which it did not retain its endemic character, meandered irregularly across the country. The line, as drawn by the United States Agricultural Department, wandered from the 29th to 42d degree of north latitude.

There had long been a widespread popular opinion that this disease, known as Texas fever, was somehow connected with certain ticks, a species of aranea that infest cattle in that region. Scientific men generally had pooh-poohed this idea. A scientist sent over by the English Government to investigate the disease had said that a little consideration sufficed to show the absurdity of this view.

During the speaker's first studies for the Department of Agriculture, it became clear that a corpuscle-destroying parasite was at work, and that it was the cause of the intense anemia with progressive oligocythemia which develops during the disease and finally causes death. In the summer of 1889 he found the parasites in the red blood-corpuscles. The life-history of the parasite has never been completely made out because the reduplication stage has always eluded observation. The organism would seem to have at first a motile, rod-like form which later develops and finally comes to a resting stage. Theory would seem to demand a double form of reduplication; one rapid, the other slow. The first occurs in animals which suffer from the disease acutely, when it is evident that the parasite multiplies very rapidly in the animal's blood. The second form of reduplication occurs in animals which have become practically immune to the disease, though still carrying around in them the germs of the disease, or which suffer from it in a chronic form. In them the unfavorable circumstances, some substances in the blood that hinders their rapid multiplication allows them to increase only fast enough to perpetuate the race, but not to produce the ordinary symptoms of the disease.

How long the parasites may live in animals which have become immune to their effects is not definitely known, but it is concluded from observation to be at least five

years. For the blood of animals from infected districts, though themselves not suffering from any symptoms of the disease. has been known after this length of time has elapsed to produce in healthy animals acute symptoms of the disease. A sort of symbiosis of host and parasite seems to be established in the course of time, and this may last indefinitely.

The disease, though endemic only in the Southern States, may be carried outside of its ordinary limits with fatal results to cattle. Not long ago an outbreak of the disease occurred not far from Boston, the infection having come through the Albany cattle-yards. Though called Texas fever, it is now known to occur in Finland, in Australia, in various parts of Africa, in Roumania, where Babes thought at first that he had found a cause for the fever in cattle there in the shape of a coccus. This proved to be due to a failure in bacteriologic technic, however, and he has since seen and described the parasite of Texas fever as occurring there. The disease is now known to exist in Italy, as Koch found examples of it there recently while studying malaria in the Campagna.

Koch's observations on it in German East Africa, especially the fact of its communication by means of the ticks that infect the animals there also, made him look very favorably upon the analogous theory as to the origin of malaria—that, namely, which makes it a mosquito-borne disease. Koch's practical sagacity led him at once to the crux in the matter of the tick theory of the communication of the disease, *viz.*, the spread of it through parasites never in contact with diseased animals, but brought up artificially. He substantiated the American discoveries in the matter, and then turned at once to the mosquito theory of malaria.

From the immunity that seems to develop to Texas fever in cattle in infected regions, Koch has found the confirmation of his views as to the immunity produced by malaria. Immunity to malaria is not produced, however, as easily as Koch seems to think. Cases of untreated malaria are very infrequent in our day, with quinin so easy to procure, and the subject is a deceptive one. Dr. Smith himself has seen a woman who confessed to having had thirty-six malarial paroxysms in as many days. She had the double tertian form of the disease, and it seemed as though in her case very little progress had been made by the organization toward immunization.

Relapses of the disease after long intervals of freedom from symptoms do not argue so much against the natural tendency to immunization as is sometimes claimed. They merely mean an unwonted invasion into the system of germs before kept out of the general circulation, or a lowering for the time being of certain resistive forces. The phenomena have been very suggestively studied in cattle with Texan fever. During relapses, in cattle that have become somewhat immunized to the disease, the parasites are unable to penetrate far into the interior of the red blood-corpuscle, and are found on its periphery alone.

For the tropics the mosquito theory of the dissemination of malaria may not promise much practical relief, since it may prove impossible to prevent the presence of these insect pests; but in temperate climes the draining of marshes, the taking of measures to prevent the multiplication of mosquitoes as, for instance, the covering of the surface of ponds where they are known to exist with petroleum, which is said to effectually prevent their eggs from developing, and other measures will eventually rid us of the malaria that we still have.

DR. WALTER B. JAMES then read a paper, entitled

PRESENT STATUS OF THE INOCULATION THEORY OF MALARIA.

He said in brief: While Koch's recent public announcement of his belief in the theory that malaria was carried by mosquitos had made the subject of very widespread interest just at present, it must be remembered that the theory was by no means a new one. It was not even modern, but had been originally broached by the ancient Romans, perhaps not even having been original with them, but adopted, as they adopted so many other things, from the ingenious Greeks. The theory has been a popular one in tropical climates for some time, and was suggested as a contribution to the etiology of malaria many years ago here in America.

We have known for a long time that malaria was infectious, *i. e.*, at least that if the blood of a patient suffering from malaria were injected into one who had never had the disease, the affection was reproduced characteristically in the second individual. The injection, therefore, of the disease by a mosquito seemed by no means impossible or even improbable. It was noted besides that the mosquito season corresponded to the season of greatest incidence of malaria, that wherever there was malaria there there were mosquitoes, though the opposite was not absolutely true. Then the same conditions fostered both. They occurred in the midst of low, damp, swampy ground, where the conditions of heat and moisture favored especially the rapid multiplication of the mosquito. There were stories, too, seemingly authentic and authoritative, of travelers having been protected from the disease in tropical countries by wearing mosquito nets.

But all this is theory. The recent work on the subject was led up to by Patrick Manson's suggestive review of the etiology of malaria in a series of lectures in England four years ago, in which he suggested that the mosquito might form the intermediate host for the malarial parasite, between the water or the damp earth where it originally existed, and man. Direct contagion was not easy to explain.

Manson noted a flagella stage of the parasite outside the body, but was not able to demonstrate its significance or how the parasite gained entrance. Then Ross, working in India, demonstrated the parasite of malaria in the stomach-walls of the mosquito. He noted the similarity of a parasite that occurs in birds to the malarial hematozoon, and studied the former experimentally. He was able to demonstrate in mosquitoes which had been fed on blood from birds affected by this parasite, called a pro-

tesana, forms of the bird parasite. Then McCallum at Johns Hopkins threw light especially on the regenerative and reproductive processes of these parasites. He observed them throw off their flagellæ, and learned the biological significance of the flagellæ. They have an important sexual office, and seem to unite with another parasite for reproductive purposes. McCallum noted also an active motile form of the parasite which enters the cells of the stomach-walls of the mosquito after ingestion, and here enters upon another stage of existence, assuming the coccidium form. Further developments take place, and the parasite is to be found in the cells of the proboscis of the insect from which, as is evident, infection would be easy.

Ross confirmed these observations upon the avian parasites, especially as regards the purpose of the flagellæ thrown off as reproductive elements. He studied the parasite in the sparrow, and demonstrated the analogy of the process set up by it with that of the malarial organism.

Bignami, an Italian observer, performed a remarkable and successful experiment. He shut up a number of mosquitoes captured in the fever-laden swamps of the Campagna near Rome in a small room in which was confined a man who had never had malaria. The subject of the experiment acquired malaria. Italian observers have pointed out that there are various kinds of mosquitoes in Italy, and that only certain kinds seem to be carriers of malaria.

All of these observations on mosquitoes are absolutely trustworthy. They have emanated from men of acknowledged scientific standing, they have been substantiated by others, and besides, as in the case of Ross, well-known authorities as Laveran, Koch, Nuttall, and Bignami and others, have had the opportunity to examine the preparations.

This much of the life-cycle of the malarial parasite in the mosquito seems to be clear: forty-eight hours after the malarial blood has been sucked up by the mosquito, the malarial parasite exists in the stomach and intestinal walls as a coccidium. After six days it has grown larger and projects into the intestinal canal. From here it is either ejected into water and infection takes place through the water, or the young mosquitoes become affected with active forms and communicate the disease. It has been noted that malaria may gradually spread in a neighborhood hitherto immune from the disease after some one affected by malaria has moved in, just as in the corresponding case of Texas fever.

We seem to know enough now to connect the mosquito definitely with the propagation of malaria. Prophylactic measures against the disease will be best put into execution by securing the extirpation of these insect pests. The drainage of swamps takes on a new and practical significance. Methods calculated to lessen the number of mosquitoes not only contribute to human comfort, but are valuable measures for public health. It is probable that in temperate climates, at least, we shall soon be able to limit the spread of the disease effectually.

Dr. F. P. Lynch, late of the Congo Free State, then read a paper, entitled

SOME PERSONAL EXPERIENCES WITH AFRICAN BLACK-WATER FEVER.

Though black-water fever has not been known for very many years, Dr. Lynch found it greatly dreaded when he went to the Congo Free State in 1893. The first case he saw was in a robust Scotchman, who had been in the tropics for twenty-five years without having it, and who was attacked after a period of unusual exertion and exposure to climatic hardships. The disease is not by any means so frequent as might be thought from all that is said of it, and even in South Africa one sees cases of it rarely enough.

It occurs in West Africa along the coast, and in the neighborhood of the Lower Congo. It attacks only whites, never the negroes nor half-breeds, and occurs principally in the rainy season. In this part of Africa there are only a few hundred whites, mainly government officials, scattered over 200 to 300 miles of territory, so that even a medical man in the Lower Congo region does not see many cases. The disease occurs without premonition, the first symptom being usually the dark-colored urine, from which the disease receives its name. This symptom at once arouses the most serious apprehensions on the part of the patient, and so adds to the gravity of the disease by the depression its well-known dangerous character is apt to arouse.

Vomiting usually sets in after a short time, especially of bile in large quantities, and jaundice makes itself noticeable. There is usually constipation, and whatever passages do occur or are brought about medicinally are dark and tar-like. Very soon, in the more serious cases, the urine becomes less in amount, and then scantier from day to day until complete suppression supervenes. These cases, complicated by urinary suppression, are practically always fatal. There are no pains complained of during the course of the disease, only a growing feeling of deep depression that settles down over the patient and soon makes his case seem absolutely hopeless to himself.

The disease attacks the vigorous as well as the delicate, and no special constitution seems to confer immunity. It does not, as a rule, attack newcomers to a tropical climate, but selects its victims among those who have been in the country two or three years. It comes on after a vacation in a temperate climate, especially if the vacation has been associated with a good deal of physical exertion, or if after their return individuals presume too much on their former residence in the tropics to do much work at once after their arrival. It does not occur among women as a rule, probably because they are not so liable to these indiscretions in the matter of exposure to the heat and overexertion. It attacks particularly people who, sure of their native health, have been negligent of drugs, and especially those who have not used quinin for prophylaxis or for mild malarial symptoms.

Recovery from the disease is usually rapid once it begins. The usual treatment is about as follows: The gastro-intestinal tract is cleared by an emetic, and by the administration of compound cathartic pills, the absorption of which is made more sure by crushing them before taking. Copious sweating is induced by hot bottles and

plentiful wrappings, and diuretics are given to induce plentiful excretion of urine. Quinin is absolutely invaluable, and must be given freely; 15 grains of the drug are given, to be repeated once or oftener during the day, according to the susceptibility of the patient to the influence of quinin. There must be no hesitation about its immediate and liberal administration. Out of eighteen cases of the disease that Dr. Lynch had the opportunity of seeing, only one patient failed to recover under this method of treatment.

(To be continued.)

REVIEWS.

LECTURES ON APPENDICITIS AND NOTES ON OTHER SUBJECTS. By ROBERT T. MORRIS, A.M., M.D., Adjunct Professor of Surgery in the New York Post-Graduate Medical School and Hospital. Third edition. Illustrated. New York: G. P. Putnam's Sons, 1899.

IT is well known that the author of this little work is an earnest advocate of the surgical nature of appendicitis, a view which is, fortunately for the victims of that disease, rapidly becoming general. He is an earnest pleader, too, for a radical operation in all cases in which the appendix is the seat of an inflammatory process. With the 1½-inch incision which the author has adopted, and with the use of the drain which bears his name, it seems impossible for failure to follow any operation for appendicitis. Yet not all surgeons are armed with his skill and good fortune, and we know of many who to this day can not feel every appendix, normal, or abnormal, as the author would have us believe he can. It requires a *tactus eruditis* which it is impossible to teach and which few men can ever hope to attain. Yet despite these extravagant claims, Dr. Morris has given us a very readable book which contains much that is instructive and which should have a good influence in teaching the fact that a so-called medical cure of appendicitis is one of the impossibilities.

The other surgical notes appended to the essay on appendicitis are reports of interesting cases of various surgical natures and of methods of the author's in physical examination. The book is very handsomely illustrated, and the book-making is good.

DISEASES OF THE EYE. A Handbook of Ophthalmic Practice for Students and Practitioners. By G. E. DE SCHWEINITZ, M.D. Third thoroughly revised edition, 696 pages, with 255 illustrations and two chromolithographic plates. Philadelphia: W. B. Saunders, 1899.

THE author is to be congratulated upon the necessity of a new edition so soon (the second edition came out only two years ago) and upon the success with which he has brought the work up to date. There are about twenty additional pages in the present edition and good judgment has been shown throughout in the selection of new matter. It is deservedly one of our most popular text-books on ophthalmology.

To the bacteriology of the conjunctiva and cornea, in which so much original work has been done in recent years, is devoted a part of the added pages, and here we find a consideration of acute contagious conjunctivitis, and of the ulcer of the cornea produced by the pneumococcus of Fraenkel. A trifling typographical error (which, however, was fortunately discovered before many copies of the new edition were printed) occurs in the copy in the hands of the writer in the lines devoted to the diplobacillus of subacute conjunctivitis (2–3 mm. long instead of 2–3 μ long, page 254).

The different methods of designating the meridians in astigmatism are given, and a much more complete description of the Holmgren test for color blindness, one of the best tests we have, is also furnished.

The revision of the pages upon retrobulbar neuritis are characteristically well done, and a better discussion of this interesting subject in as compact a form it would be difficult to find.

Reference is made to the use of the Röntgen-rays for the detection of foreign bodies in the vitreous, and some lines are devoted to fugacious periodic episcleritis, retinitis striata, and hereditary optic-nerve atrophy. The subject of ethmoidal disease which has interested ophthalmic surgeons of late is treated here more extensively, and there are some additions to the consideration of the treatment of muscular insufficiencies.

In the chapter on operations we note a reference to the use of eucain and holocain as local anesthetics, and of formaldehyd for sterilizing instruments. The description of the operation for extirpation of the contents of the orbit and for muscular advancement (Swanzy's) is more complete, and allusion is made to the method of removal of tumors. Additional operations for ptosis are described, one of which the author says he "has used in several instances with gratifying success."

The above include not all but most of the important changes in the new edition and will serve to show how zealously the author continues to cultivate the the field of ophthalmic science.

THERAPEUTIC HINTS.

For Bronchitis with Copious Expectoration During Grip.—

℞ Terpini hydratis . . . gr. lxxx
Glycerini }
Syr. simpl. } . . . . q. s.

M. Ft. pil. No. XX. Sig. Three to five pills a day. —*Lyon.*

Treatment of Grip at the Time of Onset.—

℞ Pulv. ipecac. et opii . . . gr. x
Hydrarg. chlor. mitis . . . gr. iii
Sodii bicarb. . . . . gr. ii.

M. Ft. pulv. No. I. Sig. One dose.

On the following morning a laxative dose of phosphate of soda is given, and 5 grains of phenacetin are administered every two hours for five doses.

Externally the body may be rubbed with an alcoholic lotion, and if lumbar pain be severe, a sinapism should be applied.—*O'Neill.*

THE MEDICAL NEWS.
A WEEKLY JOURNAL OF MEDICAL SCIENCE.
VOL. LXXIV. NEW YORK, SATURDAY, APRIL 29, 1899. NO. 17.

ORIGINAL ARTICLES.

BACILLUS ICTEROIDES AND BACILLUS CHOLERÆ SUIS.—A PRELIMINARY NOTE.

BY WALTER REED, M.D.,
Surgeon United States Army,
AND
JAMES CARROLL, M.D.,
Acting Assistant-Surgeon United States Army.

IN the course of a comparative study of bacillus *x* (Sternberg) and bacillus icteroides (Sanarelli) which has engaged our attention as opportunity would permit during the past eighteen months, we have had occasion to observe the effect produced by the intravenous injection in dogs of other micro-organisms, such as the bacillus coli communis and the bacillus choleræ suis. Without entering into details in this preliminary note we may state that the same clinical symptoms, *viz.*, vomiting, increased action of the bowels, and profound prostration, which are produced in dogs by the intravenous injection of B. icteroides, are also brought about by a like inoculation of the hog-cholera bacillus. When death occurs, the stomach contains a considerable quantiy of fluid blood and extensive hemorrhagic lesions are present in the small intestine. We have not found fatty degeneration of the liver, since our dogs, few in number, injected with the hog-cholera bacillus, have died too early for this change to occur. We have also failed to discover any fatty degeneration in the liver of dogs that have died within a few days after the intravenous injection of B. icteroides. This change has only been met with in two instances, when the animals had survived until the ninth day after inoculation with B. icteroides. In neither of these cases, however, was the degree of fatty degeneration at all comparable with that present in the human liver in yellow fever.

In addition to the experiments upon dogs, we have compared the course of the infection and the lesions produced in guinea-pigs and rabbits inoculated with small quantities of B. icteroides and B. choleræ suis, and have been much impressed with the similarity of the results obtained. The same cyclical course of the infection described by Sanarelli for guinea-pigs inoculated with B. icteroides is seen in these animals when injected with like quantities of B. choleræ suis. The greater susceptibility and shorter course of the infection in rabbits applies equally to both micro-organisms. Theobald Smith has called attention to the extreme susceptibility of these animals to inoculation with minute quantities of the hog-cholera bacillus.[1] We have succeeded in killing rabbits with $\frac{1}{1000000}$ c.c. B. icteroides injected subcutaneously. The lesions produced in rabbits and guinea-pigs inoculated with B. icteroides and the hog-cholera bacillus are practically the same, the most constant change consisting of multiple necroses in the liver. Sanarelli does not appear to have made any mention of this most striking lesion. We have found these punctate necroses of the liver especially prominent in guinea-pigs that have survived the inoculation more than five days.

Observations have shown that pigeons are not very susceptible to inoculation with the hog-cholera bacillus. We have also found these birds to be tolerably resistant to infection with B. icteroides. A fatal result has been produced by injecting 3 c.c. of a bouillon-culture into the breast muscle. Hemorrhage, swelling and extensive necrosis of the muscle are present, under these circumstances, as has been described by Welch and Clement, for the hog-cholera bacillus.[2]

We desire also to record in this preliminary note that bacillus icteroides, when fed to young hogs, produces an acute infection which may be followed by a fatal result, and that the chief lesion is confined to the large intestine. This lesion consists of an inflammation of the mucous membrane accompanied by fibrinous exudate, together with numerous small and large superficial ulcerations affecting the colon and cecum. These ulcerated areas are covered by an abundant, thick, bile-stained exudate. The "cork-lining" appearance mentioned by Smith would apply to the description of the intestinal mucosa. A portion of the viscera of a young hog that had been fed with 25 c.c. of a 24-hour bouillon-culture of Sanarelli's bacillus and which had died on the sixth day of the disease was fed to a second animal. The latter after exhibiting symptoms of sickness, such as fever, shiverings and loss of appetite, for a few days appeared to have fully recovered from the inoculation. It was killed on the 18th day. At autopsy numerous ulcers in various stages of cicatrization were found in the large intestine.

[1] Bulletin No. 6, U. S. Department of Agriculture, 1894.
[2] "Hog Cholera and Swine Plague," Welch and Clement, 1894.

As regards the morphologic and biologic character of B. icteroides and B. choleræ suis we have been unable to observe differences other than may be met with in varieties of the same species. Both are small, quite active, motile, non-liquefying bacilli whose slow rate of growth is the same in bouillon and in gelatin; likewise on agar, potato, and in litmus milk the growth presents the same appearances. Milk is not coagulated by either of these bacilli.

The action of B. icteroides and B. choleræ suis upon the three sugars has been the same in our hands. Both ferment glucose. If the bouillon is free from muscle glucose no fermentation takes place in lactose or saccharose bouillon. Exceptionally we have recorded a very slight fermentation of saccharose with both organisms Both of these bacilli, when cultivated in Dunham's solution, give a faint indol reaction.

We desire further to record the marked agglutinative reaction exhibited toward the hog-cholera bacillus by the serum of an animal immunized with B. icteroides. As long ago as May, 1898, we had observed that the blood-serum of a dog which was being immunized with B. icteroides would in dilutions of 1 to 5000 promptly arrest motility and agglutinate the hog-cholera bacillus. After testing various dilutions of this serum from 1 to 100 to 1 to 5000 we could observe no difference in its agglutinative reaction upon B. icteroides and B. choleræ suis. We have recently obtained, through the kindness of Surgeon General Sternberg, a specimen of icteroides serum, which, in dilutions of 1 to 120,000, promptly arrests the motility and agglutinates bacillus icteroides. In the same dilution this serum immediately arrests the motility of the hog-cholera bacillus, but does not bring about agglutination of the bacilli until at the end of about three hours. In a dilution of 1 to 30,000 agglutination commences within ten minutes and is complete at the end of one hour. The groups of bacilli are smaller than occurs with B. icteroides.

In rejecting B. icteroides as the specific cause of yellow fever Novy emphasizes the extreme resistance of this bacillus to low temperatures[1]. We have found Sanarelli's bacillus to preserve its vitality and virulency after twenty days continuous freezing at 10° C. (14° F.). That the hog-cholera bacillus is also quite resistant to low temperatures has been proven by the observations of Smith, and by the fact of its survival, notwithstanding the extreme severity of winter in our Northwestern States.

Putting together, therefore, the remarkable cultural resemblances of these two bacilli, and the similarity of their pathogenic action as shown in guinea-pigs, rabbits, pigeons, dogs, and hogs, we venture to express the opinion that the bacillus icteroides (Sanarelli) is a variety of the hog-cholera bacillus, and that it should be considered only as a secondary invader in yellow fever. We find that the bacillus *x* (Sternberg) presents marked differences from the foregoing micro-organisms, both as regards its biologic character as well as its pathogenic action toward animals. Reserving for future publication a more detailed description of our observations, it will suffice to here state our opinion that bacillus *x* should be placed with the colon group.

[1] "The Etiology of Yellow Fever," MEDICAL NEWS, p. 368, September 17, 1898.

CARDIAPHOBIA, OR HEART FEAR.

By W. T. ENGLISH, M.D.,
OF PITTSBURG, PA.;
PROFESSOR OF PHYSICAL DIAGNOSIS IN THE MEDICAL DEPARTMENT, WESTERN UNIVERSITY OF PENNSYLVANIA; CONSULTANT IN CHEST DISEASES IN SOUTH SIDE HOSPITAL AND KAUFMANN CLINIC.

THE title of this paper is meant to include all cardiaphobias (heart fears, cardiac dreads, and heart frights) that are associated with so-called functional derangements of the heart. In attempting to establish a classification it will be necessary to separate the cardiaphobias into three principal groups, *viz.*: First, those in which the fear elements appear as preliminary to the functional derangements, and are, therefore, to be regarded as results of psychic action. Second, those in which the fear elements succeed upon the cardiac symptoms, and are secondary without preliminary ideation. Third, those in which the psychic elements act in conjunction with the cardiac disorders, producing a mixed condition, and are not in themselves primal.

Much valuable data has been contributed upon the general topic of fear, but the discussions of the fear element as exemplified and modified in disordered conditions of the body have been meager and unsatisfactory. Two centuries ago Descartes claimed that anything originally harmful to the body or closely associated with it would produce a similar passion or emotion upon successive generations, and prompt them to flight or efforts at escape. "There also comes," he says, "into the blood and the impulse imparted to it, a message that increases the passion of fear."[1] Giovanni Lancisi, the celebrated Court physician of Italy, places mental functions in close dependence upon the heart nerves, ganglia, and coronary vessels.[2] There is a disposition upon the part of recent authors to regard the fear element as largely the product of somatic life, rather than the ideational centers. Some, however, place fear among the purely psychical phe-

nomena. Its connection with cell actions, whether of the mind organ, the nerves, or the bodily life, must each influence the living organism and modify metabolic activity. Many have maintained, and still do maintain, that fear is a morbid entity, no matter how produced or expressed. Brown-Séquard once thought that all fears were due to abnormal conditions, and that he could inoculate with the bacilli of fear.[3] Fear is a universal possession, and is essential to every creature, brute or human.

Diseases divested of fears are bereft of one of the most benignant influences, and one that tends to the preservation of life and the promotion of cure. This is negatively evidenced by the fearless lethargy that consumes the victim of phthisis. Like rudimentary or vestigial organs, some fears have fulfilled their mission and become degenerate and useless. The dread of death, and especially from heart disease, is on the increase. We do not know how much of this belongs to the traces of remote experience, or whether hereditary root is demonstrable at all; but scientific research proves conclusively that some of the oldest traces are among the strongest in the fear manifestations of the present time.

In searching for the cause of this fear element in functional heart derangements, we must remember that the structure of the heart has an extremely abundant nervous supply, both intrinsic and extrinsic. From the earliest period of conception the heart is the first organ to develop, and long before the brain or mind has any dominating influence, it controls the bodily supplies, and is indeed the citadel of life. About one month after conception the human heart has very nearly the form which it preserves through life. The fully developed heart is composed of interlacing bundles of striated involuntary muscular fibers, devoid of any sarcolemma, and from the protoplasmic beginning maintains the habit of contractility.

The complicated innervation of the heart includes nearly 400 nerve ganglia, which are as so many little brains or sentinels on the watch for any cause for alarm. If one is injured the others feel its loss, for it still retains the capacity of giving out impressions, which, because of the injury, may frequently be wrong; later, if the process of deterioration is progressive, it habitually gives out wrong interpretations, and ultimately it degenerates into ganglionic insanity. This again may extend from one to another like a contagion, until a community of ganglia is rendered liable to hallucinations and delusions. These ganglia are reinforced by the cardiac plexuses and myriads of nerves distributed to every fiber of its structure. With these intrinsic nerve elements it could conduct, and does continue its contractions and dilatations even when severed from communication with the nerve centers. It often displays the ideo-motor capacity when all communication with the brain or cord are well preserved and normal. Some of the acts of the heart under stress are as independent as if it were invested with intelligence.

The many channels that connect the heart with the centers in the cord and brain and convey the inhibitory, accelerator, and sympathetic impulses, while augmenting the possibilities for utility, greatly increase the probabilities for varied phenomena, shading from the normal to embarrassing abnormalities. The center of the cardiac nerves is the medulla, and here all the paths of the nervous system converge. This multiplicity of origins of the nerve-supply of the heart has been recognized as products of the higher evolutionary processes, and are supposed by Mosso and others to constitute means by which the fear element may be established and maintained.

Again, it is to be remembered that fears do not always express themselves immediately upon the reception of the impression. The aptitude of the nerve-cell to accumulate and preserve external impressions is one of the most important physiologic facts. This capacity is supposed to reside more appropriately in the brain, but such capacity cannot be denied other nerve-cells throughout the body, and especially would it be reasonable to expect it of the highly organized ganglia, plexuses, and nerves of the heart. There is in each organ an unconscious vigilance that will protect, even in the absence of the ideational centers, and when the organ is perfectly adjusted to its needs this inherent capacity is more certain.

As a causative agent in cardiaphobia, age bears some relations that must not be disregarded. As age increases many influences that favor fear outbursts decline, and others increase. There must be a more or less puerile character to all fears that remain throughout life. Some seem to advance in everything but the elevation of their fears which perturb the heart and mind. There is also a point at which the adult heart and mind in their fears, like other capabilities of the body, are decadent. There are periods in which the heart muscle is subject to the greatest expenditure of force in its growth and development, as at puberty, and the fear element is by nature withheld; but, if by abnormal activity it is forced to the front the manifestations are peculiarly distressing. Again, the young are apt to fear death for themselves, the old for others.

Women respond more readily and vigorously for

a time to the fear element exercised upon the circulatory apparatus than men; therefore, it is assumed that women have more tender hearts than men. The female organization is more conservative of archaic influences than the male. An additional strain is placed upon women throughout life, and the periods often touch each other that should demand earnest solicitude and utmost care in observing the demonstrations as occasioned by the fear element: puberty, pregnancy, childbirth, and the climacteric. A self-regarding disposition of mind fosters the fear element. Males are more commonly involved than females in this respect. These cases appear at the most active and most wearying, as well as the most important period of life, from thirty to fifty years. The strain of this period is the greatest mentally, physically, and, to some, sexually.

The age in which we live has its causative influence. There is to-day a greater demand than ever made upon all for the fulfilment of personal tasks, and larger ordinary requirements upon the heart force and nervous system to accord with the pace set for the present generation. There is a growing sentiency in the people [4] so that we feel more than ever, consequently the possibilities of fear are more exalted. Cardiaphobias are, in some individuals, little more than sentient crises. In the highly nervous state there is added cause for sentiency, and the subject listens intently to the heart's frettings with every breath bated, thus adding, however unintentionally, a most potent factor to cardiaphobia and mental unrest. Some cardiaphobiacs are resonators of sensation. The heart engages the most perfect attention during the stillness of the night when the vividness of its impression is augmented by the absence of distracting influences.

It cannot be denied that the etiology of some of the cardiaphobias lies in the hypersensitive condition of the nerves or nerve centers; but, nevertheless, their primal awakening may be in the heart malbehavior which preceded, rather than followed, the nervous irritation. This intermingling of effects must not be overlooked.

For the production of certain characteristics of fear in heart perturbation, there is no need for the participation of will or consciousness [5] All that is most characteristic in the phenomena attending cardiaphobia is due to automatism. Will is restricted, and involuntary movements dominate these fears. It is not the serious that the heart appreciates to excess—as for instance, long continued heart lesion—but the unexpected explosion of emotions occasions intense perturbations. The first moments are the most energetic in their response, as is true of all phenomena in the nervous system. Some reduction of nervous tone brought about by the habits of life will render the subject liable to heart fear. Overwork, worry, mental strain, and psychic processes generally may mingle and contribute as causative in the nervous depressions or exaltations preliminary in the expression of fear. Faulty central impressions may be received upon the heart directly without previous unwholesome condition or malbehavior of the organ, and the psychic expressions find outlet in organic functional malbehavior.

If the heart received no sudden shocks from fear and was not made capable of them, the influences entering the ideational centers through the senses would easily be pushed aside. The more frequently the fear act is performed, the less appeal the heart needs make to the nerve centers, and it is often accomplished by the heart itself and by some less important organs, without such appeal.

Cardiaphobia is not necessarily the result of influences proceeding from ideational centers but is often clearly demonstrated to be immediate and intrinsic. If a loud noise as of an explosion take place near us, even if asleep, the heart begins to beat much faster than before. We betray this fear element without ideation, and when the ideational centers act, there is a tardiness because of their influences. Finally, fears may occur in the most valorous and are beyond the control or suggestion of the will.

In our study of the phenomena of the fear element in functional diseases of the heart, we must keep in view the fact that the nerve-cells may store up the fear elements, and while apparently latent, the fear-charged cells are under tension and thus resemble in their possibilities the Leyden-jar,[6] and contact may secure a more or less violent discharge. This may be accomplished by a slight cause, either extrinsic or intrinsic to the body. Thus sudden fright may precipitate an attack of the most persistent and severe form of cardiaphobia, which primarily has its source in the ideational centers. Cardiac fear of this kind endures for months and even years, and displays itself on occasions in the half-convulsive demeanor that possesses the cardiac plexuses and ganglia. The cardiaphobia may express itself in loudest terms or write its characters very large within the cardiac area, and yet take its primal origin in the brain. Again, there are fears which come into the psychic experience so suddenly and violently that for a time they half hypnotize the psychic element, so that the somatic and cardiac factors are the only ones observed. In these cases, there is an exaggerated anxiety and an excessive apprehension pervading the entire life with corresponding cardiac perturbations. Pseudo-angina pectoris,

tremor, vague thoracic experiences, without proportionate change in heart demeanor, usually indicate the psychic character of this disorder. It is more psychic and less cardiac than the succeeding classes. Beginning in the ideational centers, we would naturally infer that the mind would be prepared with its defense, but experience proves that the cardiaphobia thus induced, acts with such intensity and celerity that the knowledge that should be anticipatory of it, is disassociated.

A case which illustrates this form of heart fear came under my observation in October, 1892. The patient was a man thirty-two years of age, height five feet, nine and one-half inches; weight, 187 pounds, and of good family history. His life had been free from serious illness. Several years prior to his call on me he had feared his heart would cease beating, and while describing his symptoms he was unconsciously feeling his pulse. When his attention was called to the fact, he admitted that it was his habit. At night he was afraid to sleep lest he might not live until morning. He, therefore, suffered from insomnia. He was afraid to be alone, and as he was a traveling man this was very inconvenient. He always walked very slowly, lest an accidental death might result from his exercise. He would suddenly leave the social circle or the card-table to hide his fright, and yield to a vague demand of his heart. This fear of sudden death caused unwarrantable limitations and modifications in his habits, diet, regimen, and usefulness of life.

A physical examination revealed functional derangement of the heart. Tachycardia increased the frequency of the heart beats to 146 per minute. Observations made at short intervals discovered the heart-beat reduced to 98 per minute. There was an irregular intermittence occurring five times during the minute of rapid action, and only twice during the more quiet action. These omitted heart throbs created a corresponding breach in the respiratory action, and a sighing respiratory effort. The countenance at this instant became exceedingly anxious. The lungs presented no evidence of disease. The digestive apparatus was taxed in the performance of its duties because the subject ate freely. This he did without relish, and he indulged in alcoholics to slight excess. His tongue was large, flabby, furred, and somewhat pale. Bowels irregular, but usually one evacuation each day. Complained of visual limitations and headaches which were of evanescent duration. He was disqualified for mental or physical exertion. Urine of normal quantity, high specific gravity, and loaded with urates. Because of his general aspect of health he claimed to have been subjected to unsympathetic treatment by friends and also by physicians.

After the examination and hopeful assurances he departed with apparent satisfaction, promising to follow the treatment suggested. On the next day, however, he returned to have his heart re-examined, fearing that something had escaped detection. This was repeated for months, until there was marked improvement. He then disappeared to return in 1895, after a lapse of nearly three years. He reported that he had been comparatively free from any cardiac malbehavior, although vague apprehensions would suddenly seize him that the heart perturbation might return. His visits have been repeated frequently, and at each departure he asks the question, "Are you sure, Doctor, that I will not die suddenly?" The psychologic source of fear in this patient still remains active to haunt his life, and at such times to perturb his heart. He admits that on several occasions since his departure he has arrived at the diagnosis in his own case of incurable heart lesion.

In the second group the fear elements succeed upon the cardiac malbehavior, and are secondary, without preliminary ideation. The functional disorder in the heart may exist for an indefinite period, without any manifestations of a psychic fear element. The depression in the precordial region and the startling terror-laden heart throbs are sufficient in themselves to reproduce the most fossilized neural tweaks and shudders of Arcadian times. There are circumstances when nothing appears but the intrinsic manifestations, and a fear uprises that is thrust upon the consciousness by a missing heart-throb or some other perversion of the cardiac action. This is the form of fear that seems to rest on experience. It is not psychical, but is located in the somatic life. This is the most closely associated cardiaphobia. When alarm is given to the heart directly through its intrinsic nerve cells, it is attended by cardiac distress peculiarly its own, and that is separate and distinct from the object feared. No more real symptoms can appear than these that are so closely associated with and abiding in the heart. Moreover, they may be forced upon the attention of the psyche through any or all the nervous channels in sympathy with the cardiac anxiety. When the precordial symptoms subside, there is, as a rule, a complete hiatus in the distress for some time. Rarely in the intervals of cardiac calm the subject anticipates with dread the recurrence of the distress, and each ache or pain in the vicinity of the heart is magnified into a possible fatal return. This fear of its return in this and other groups of cases has somewhat to do with its return. No emotion or pronounced impression takes place without immediately acting upon the heart and blood-vessels. In the absence of heart malbehavior the patient is ashamed of his alarm, but resumes it immediately on the return of the palpitation.

Among the cases recorded of those belonging to the second group, I refer to one very characteristic. A physician who had suffered from several

paroxysms of palpitation with accompanying arrhythmia was prompted to repair to my office, a distance of five squares. The exercise incident upon the more or less hasty walk seemed to aggravate his symptoms. At each step his anxiety seemed to augment. Upon arriving at my office and finding me temporarily engaged, he unceremoniously rapped upon my private door and called loudly for me. He explained by assuring me that he did not think he could live another minute. An immediate examination and some temporary medication served to calm him somewhat, and the paroxysm gradually faded away. During the succeeding six months he reported three lesser attacks, but at the expiration of one year and three days from the first appearance at my office he returned in a like frame of mind, and after similar treatment he retired, since which time he reports entire freedom from such experiences.

In the third and last form of the expression of the fear element, there is an evidence of the psychic and cardiac activities combining. The clinical picture in these cases is a changeable one. There are varied and kaleidoscopic diversifications that are not always traceable to their true cause. This is due to the mutability as well as the multiplicity of the disturbances and their factors. Whether or not the fear influence begins simultaneously at both ends of the chain, the expressions appear at each extremity of the circuit at the same instant. By the manifestations in some cases it is to be inferred that the fear element is hidden deeper in the psyche than in the soma, and they can more readily be appreciated by the sphygmograph, the educated finger-tips, and other physical means than by an analysis of the psychic phenomena. On the other hand, these subjects are often found without heart perturbation, but the ideational freedom is accompanied by the subjective sense of something wrong in the precordial region. Cardiaphobias of this class often arise with no pronounced demonstration of either the somatic or psychic life, but these factors naturally develop into prominence. When thus developed, with both extremities of the nervous chain active, they are not easily differentiated as to their cause or primal origin. The degree of cardiac self-consciousness is more marked than cases observed in the first group. The functional malbehavior of the heart is placed under closer observation, and this increases its activity and retards intrinsic repair. Moreover, by the greater activity of the heart the brain is more generously supplied with blood, and the ideational centers thereby acquire unusual energy. The intermediate nerve-links, including the vagi, sympathetic, medullary center, as well as the vasomotor system may act as mediators between the cardiac and psychic tumults. It is in this mixed group that we most commonly find those subjects who are accompanied by a weakness that prompts them to hide their fears. Like pent-up grief, this fear element when hidden is more dangerous and disqualifying than when open From very fear of finding out the cause of his distress the sufferer hides the cardiaphobia from his physician.

A man, thirty years of age, weight 143 pounds, height five feet, eight inches, manager of a dry-goods house, and of previous good health, had felt uneasiness in the precordial region with a sense of respiratory limitation. The paroxysms grew more and more unbearable as he thought upon the necessity for medical counsel. His pulse reached 126 per minute. During two or three successive minutes intermissions would occur. A varied period of freedom from irregularity would succeed. Any reference to the perturbed or irregular action would have the effect of augmenting the perturbation. The psychic and somatic influences were interactive, and ran the gamut of discomfort so that moral expedients were deemed imperative, but they were without avail. As long as the patient's disorder was the subject of his thought or the topic of conversation the irregularity and anxiety were increased. An attempt to secure a sphygmographic tracing of the pulse at our first interview was abandoned because of its awe-inspiring results. Treatment, aided by time and experience, have rendered subsequent attacks less appalling, and during the eight months he has been under observation they have been separated by wider intervals and reduced in severity.

To enable us to approach an unbiased judgment we must rid our minds of the fallacious belief that the fear products are the results of imagination. The fear element, when properly educated, drilled, and disciplined,and manifesting itself through wholesome life, must be regarded as distinct from those expressed under excitement and through functionally deranged organs.

To describe these symptoms or conditions as nervous is equivalent to saying that they are fanciful or fictitious. Constancy in any symptom must be regarded as evidence of its reality, and it enables a diagnostician fully to determine the underlying conditions. When we approach a patient who is insane from terror it is no fit time or occasion to attempt to calm him by telling him he has a diseased imagination. No patients are more to be pitied than those under the thralldom of cardiaphobia. I am convinced from their point of view they are the victims of misery to which actual pain would bear no comparison; which the physician, try as he may, cannot comprehend. Whether this fear element is worthy of the physician's recognition as a symptom and a guide to the diagnosis and treatment, is, to

my mind, answered affirmatively. No longer should we call it hysteria, hypochondriasis, dyspepsia, imagination, and neurasthenia. It should be denominated cardiaphobia, and regarded as a reality with its roots imbedded in the somatic as well as psychic life. It is well also to remember that these conditions do not uprise only in the half-foolish, crochety individuals with weak nerves and small mental endowments, but they are oftentimes the unfortunate belongings of the best.

The diagnosis of these cases is not always as simple a procedure as might, on first thought, appear. When a heart is greatly perturbed it is difficult to make a satisfactory physical examination, and it will be found necessary to defer this portion of the analysis until a more quiescent period True cardiac lesions must never escape detection, and these special conditions of heart fear must be placed in the right category. A due amount of importance must be accorded each symptom and group. The gravity associated with them must not be disassociated. In the first group the discrimination is quite easy, at least it is readily separated from the second and third by its primary expression in the ideational centers. It is often attributed to the imagination in its first outbreak, especially by those who believe the imagination is nothing, and proceeds from nothing. There is something too real in the symptoms attending to be thus interpreted by the observing physician. In each class the symptoms must be carefully reviewed. In the mixed group there will be a division of the fear manifestations between the heart and the ideational centers. Now one will preponderate, and, anon, the other gain the ascendancy. This will involve instability as to the character and position of the fear element. The precedence or early preponderance of the intrinsic cardiac element will usually suffice to prove that the heart enervation is the primal cause. Hysteria should be separated without difficulty because of the absence of the most fundamental symptoms that constitute the heart fear an entity.

Hypochondriasis is, as a rule, a product of the ideational centers, but is rarely, if ever, associated with cardiac malbehavior. There are some symptoms that stand out very evident which belong to dyspeptic conditions, and which are very commonly associated with malbehavior of the heart. These are not the necessary concomitants of the fear element as exemplified in functional heart derangement, but they often add to the fury of the nerve storm when they are present. To class these sympathetic influences with the phenomena of cardiaphobias would be widely remiss, because the latter originate in heart and brain and the former are reflex. Some have intimated that these fears are the results of neurasthenia. The phenomena under consideration are specifically local products of the heart, the brain, or both, but not of a general irritability of the entire nervous system, as is neurasthenia. Finally, we will be aided in diagnosis by remembering that the fear element is more commonly associated with functional derangement of the heart than with any other disorder. Very rarely are they found in the insidious quiet forms of organic heart disease, and it is only when there arises some associated functional disturbance that fear comes to the front.

The prognosis may usually be regarded as favorable. The personal equation must be taken into consideration in each case. Fears that might be very injurious to one would act as a tonic to another. Especially will this hold good when they are results of perfect functions.

Age constitutes an important factor in our estimates of the prospects. The sudden vascular tension incident upon some of the more severe cardiaphobias must be regarded as serious if occurring after middle life, and may prove to be the weapon by which the last fatal stroke is inflicted. There comes a stage of fear change that belongs usually to advanced life which we may call the stage of forgeting or failure to reproduce the protecting fear. When the heart or brain fails to be impressed with fears that once were occasions for the uprising of nerve storms there is something seriously wrong. The persistence, as also the severity, may intimate the probable outcome. If heart fears continue with cardiac perturbation throughout a period of years, even with the ordinary intervals of relief, there will be found some myocardial changes. If nothing more than hypertrophy of the most benignant nature, it is to be estimated as a step toward other changes. The blood-forming functions associated with respiration and digestion, as well as general trophic metabolism, will each yield up some capacity as sequelæ to protracted cardiaphobia. It should be looked upon as evidence of nerve weakness when the subject is prompted by fear to shrink from the verdict of the diagnostician. The effect of such secrecy is the useless expenditure of nerve fluid. In all low states of vitality the sudden uprising of the fear element will be more influential than in normal conditions.

In treating these patients we must bear in mind that we cannot hope to eliminate fear, but it should be our purpose so to manage it that it may have the power of proper reaction. This may be achieved through medico-moral therapeutics. The treatment by moral suasion alone has little to commend it empirically, but there are patients who, if once made to

realize that their fears are beneficent in design, and are but timely warnings which they should eagerly heed, will experience an intellectual gratification and somatic freedom that is worth the price of rubies. No one, however intellectual, but will experience a charm when he feels this advance in the character of his fears and his relations to them. Excessive fears, however, must be controlled by other means than those appealing through moral influences. It is the disposition of most of the subjects to seek temporary relief by indulgence in alcoholics. Unless the patient be anemic, or weakened by previous drain, the use of stimulants or heart goads is contraindicated. Bromids have held a popular place in the treatment of all undue nerve uprising or irritability; I mention them to condemn them as inefficient. A remedy is needed that will act with celerity and potency in securing desirable quiescence. If in our investigation we have carefully eliminated serious heart lesion, chloral hydrate may be boldly employed, and the dosage in quantity and frequency pushed until our patient has secured a dreamless sleep extending over a period of at least four or five hours. This will be found to give much relief to the symptoms, no matter whether intrinsic to the heart or belonging to the ideational centers. Trional, usually administered in 10-grain doses, is well borne under these circumstances in 30-grain doses, repeated in three or four hours until sleep is produced. This drug has the advantage of being free from depressing effects upon the heart, and can be employed even in the presence of heart lesions. The doses selected should be given in a glass of hot milk. Acetanilid and phenacetin will emancipate the nerves from their irritability, but will not relieve with certainty the cardiac arrhythmia. Tonics must be administered to replace the nerve outlay. The physician should have constant oversight and often reassure himself by repeated examination so that he may rationally assure his patient of the hopeful prospects for relief.

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Rectal Specialists.—During the meeting of the American Medical Association at Columbus, June 6th to 9th, there will be a meeting of the medical men engaged in the practice of proctology, for the purpose of effecting a permanent society for the study of their specialty. Physicians interested in the project are requested to address Dr. William M. Beach, 515 Penn Avenue, Pittsburg, Pennsylvania.

A BACILLUS RESEMBLING THE DIPHTHERIA BACILLUS IN ALL CULTURAL CHARACTERISTICS, BUT NOT PRODUCING DIPHTHERIA TOXIN.

BY LOUISE DUDLEY DAVIS, A.B.,
OF NEW YORK;
ASSISTANT BACTERIOLOGIST IN THE NEW YORK CITY HEALTH DEPARTMENT.

THE occasional development of a case of diphtheria among the cases of scarlet fever in the Willard Parker Hospital caused an examination to be made from time to time of the throat secretions of patients on their admission or during their stay. It was discovered that at certain times the secretions from fully ten per cent. of those admitted from the tenement district with scarlet fever contained bacilli which microscopically and culturally were characteristic of B. diphtheriæ.

During a portion of the winter of 1897–98 nearly fifty per cent. of the scarlet-fever patients developed otitis media, and as this was a quite exceptional occurrence, Dr. William H. Park made cultures from the ear abscesses of two patients. Smears from the growth on the serum tubes from the first patient revealed an almost pure culture of a short bacillus with considerable differential staining, and with most of the individual bacilli lying parallel to one another, and these bacilli resemble the shorter form of the diphtheria bacillus. From the second case an agar-plate had also been made; this showed a variety of colonies. Upon careful examination of these a few were found with the following characteristics: Dark centers, light uneven edges, various tones of shading and granulation, and colonies which microscopically resemble those of B. diphtheriæ.

Serum tubes were made from these colonies, and, after twenty-four-hours' growth, smears from these showed bacilli extremely characteristic of that of Löffler. They were polymorphic, some long, irregularly staining, others short and evenly staining. Agar-plates made from bouillon-cultures showed spreading colonies with light uneven edges and dark centers. The colonies were creamy white, and, as a rule, the growth was a little heavier than one expects to see in true B. diphtheriæ.

The presence of this bacillus in these two cases led us to obtain cultures from other cases of scarlet fever in which otitis media was present. Cultures were also taken from the throat of most of these patients, as it was supposed that the bacilli might have migrated through the Eustachian tube. Cultures and smears were examined from twelve of these patients, and short bacilli, staining irregularly, were found in all. The bacillus was isolated from ten cases. In all of this series the bacilli were isolated from the cultures made from the ear abscess, but in

three of the same patients the cultures from the throat gave negative results. Unfortunately, in these three instances the cultures were not taken from the throat until five days after cultures had been taken from the ear, and no controls were made from the ear at the time the throat cultures were taken. The throats were fairly clean when the cultures were made, and so it may have been that the bacilli, though originally present, had disappeared, as was sometimes found to be the case when second cultures were taken from the ear. Once the bacillus was also isolated from an abscess in a cervical lymph-node of one of the patients. In another similar case it was not present, though found in the throat and ear of the same patient. In both of these cases the chief infection seems to have been staphylococcus aureus.

No diphtheritic symptoms were noticed in any of the patients, but the unusually large number complicated by otitis media is interesting, and was perhaps due to the presence of this bacillus. Most of these patients at some time had rhinitis; otherwise the cases presented nothing of especial interest, with the exception of one patient, again to be referred to. One case of the twelve proved fatal, the patient dying of gangrenous cervical cellulitis of the neck and bronchopneumonia. These conditions had developed before the child's admission to the hospital. None of these patients had unusual throats for scarlet fever, but cultures were made merely to prove or disprove the presence of this bacillus.

In the case already alluded to, cultures were taken from both ear and throat of the patient, though at the time there were no throat symptoms. Smears from these tubes showed bacilli very typical of B. diphtheriæ, from the throat as well as the ear, and the colonies on agar-plates were very light and spreading. The cultures in every way looked characteristic of a virulent diphtheria bacillus, but when inoculated into guinea-pigs 2 c.c. of a bouillon culture failed to produce any reaction. Five days after these cultures had been taken a membrane developed in the patient's throat, and an examination made at the Hospital showed what was considered to be diphtheria bacilli. The patient was isolated, but the membrane disappeared after five days, and the patient recovered.

Cultures were made from the throats of two scarlet-fever patients who did not develop otitis media, and this bacillus was not found either in the smears or the cultures. The possible relation to otitis media and the necessity of knowing whether the cases in which this bacillus occurred were dangerous, led to a careful study as to its relation to virulent diphtheria bacilli.

The bacilli isolated in the twelve cases vary somewhat in appearance, both as individuals and also as to the shape and color of the colonies on agar-plates. Some grow in rather heavy dark colonies, while others are light and spreading; some give pellicles on the bouillon and leave the fluid clear, while others do not give as heavy a pellicle, but cloud the entire media. However, in all cases the general appearance of the bacilli and of the cultures is the same, and they differ among themselves no more than do diphtheria bacilli from different sources. When stained with the Neisser stain, which C. Fraenkel especially recommends to differentiate the true bacillus from the pseudo, all show the end stain and decolorized body.

With the exception of Case II., none of the bacilli proved virulent to guinea-pigs in doses of 2 c.c. bouillon culture. Some of the pigs lost weight rapidly, and appeared sick and then gained again. Little or no edema was noticed even at the point of inoculation. A pig inoculated in the abdominal wall with 2 c.c. bouillon culture from Case II. died within twenty-four hours after inoculation. At autopsy the pig did not show edema or congestion at the point of inoculation, but there was a general serous peritonitis, and the kidneys, liver, and spleen were all much congested. The plates and cultures made from the heart-blood, liver, and tissue about the point of inoculation showed pure and abundant cultures of the bacillus. The absence of characteristic diphtheria lesions and the presence of general blood infection made it seem of sufficient interest to follow this organism further.

Morphologically, it bears a most striking resemblance to the bacillus diphtheriæ. It is polymorphic, sometimes short, rather evenly stained, while the individuals lie in parallel lines; at other times it is long, lies irregularly, and gives the broken stain typical of B. diphtheriæ. It also shows the characteristic reaction when stained by the Neisser stain. It is non-motile, positive to Gram, produces acid by its growth in glucose bouillon, and does not form gas in fermentation-tubes. In cultures, careful comparison has been made with cultures of several diphtheria bacilli, and although there is a constant difference, in most instances it is so slight that it is only noticeable when the cultures are carefully compared, and it is no more than occurs between any two cultures of diphtheria bacilli.

The diphtheria bacilli tested form a heavy granular pellicle in bouillon, but the pellicle formed by growth from Case II. is thin, gray, and smooth, together with a heavy precipitate at the bottom of the tube, while the broth itself is left clear.

On agar-tubes the growth of diphtheria is decid-

edly granular and very white, while Case II. shows an even, almost transparent growth. This same variation is seen on glycerin-agar, the colonies of diphtheria inclined to be granular and flaky, while Case II., on this media, is more of a gray-white, much dryer in appearance, and more inclined to grow in small colonies. On potato neither show a visible growth. On blood-serum the macroscopic appearance is much the same. Both grow very poorly on gelatin. The same characteristic differences in the growth of these two organisms are seen in the cultures, whether grown at room temperature or in the incubator.

Although the cultural variations between this bacillus and B. diphtheriæ have been of interest, the most characteristic and significant difference between the two has been found in pathogenic properties of this organism. Though the animal experiments thus far have been somewhat unsatisfactory, still they have shown important reactions which the true B. diphtheriæ never presents. After the first experiment had been performed, in which the pig was killed with 2 c.c. culture, some time elapsed before another inoculation was made, and the culture had lost its virulence, for neither the original culture nor the pure culture derived from the heart-blood of the first pig would kill with 2 c.c. of the growth. Five cubic centimeters were tried, with no apparent ill effect, and finally 11 c.c. of a twenty-four-hour culture were inoculated subcutaneously, with the result that the pig was dead the next morning. No edema was seen at autopsy, but the subcutaneous and muscular tissues were much congested. There was extensive peritonitis, and slight congestion of the kidneys, liver, and spleen. The latter was slightly enlarged. Lungs normal. Cultures from the organs showed very heavy growth of pure cultures of the bacillus; even the plates and tubes from the heart-blood showed a fairly large number of colonies. Smears made at autopsy, especially from the spleen, show very beautiful pictures of phagocytosis. There are a large number of bacilli which show the end stain and many groups of leucocytes massed together, all well filled with bacilli. The cell outline of these leucocytes is broken away, and throughout the smear are fragments of nuclei from broken-down phagocytes. Apparently, as judged from the smears of liver and other tissues, the bacilli have not invaded the tissue-cells themselves, but as yet no sections have been made.

A pig was inoculated, subcutaneously, with 9 c.c. of culture mixed with ¼ c.c. 750-unit antitoxin. At the same time a control was inoculated with 9 c.c. of the culture. The last animal lived, while the former was dead the next morning, and the autopsy showed much the same condition as that of the previous pig (which had not received antitoxin), except, in this instance, the lungs were greatly congested, and there was fluid in the pleural cavity; the peritonitis, also, was of a purulent type. The smears and cultures showed relatively the same number of bacilli as in the previous case.

The variations in the animal experiments have been very great, as a pig may die from a certain amount of culture, and another, inoculated at the same time with the same amount, may live. In general, it can be said that the pigs which have received antitoxin have died more quickly than those which have not. As much as 5 c.c. of antitoxin, containing 850 units per c.c. have been tried, when 10 c.c. of culture was inoculated, and still the pig died within twenty-four hours, while a pig inoculated at the same time with 10 c.c. of the same culture alone may live a day or so longer. Some of the pigs used in these experiments had previously been used to test antitoxin, but the fact has not seemed to appreciably effect the virulence of the bacillus.

From these experiments it is found that the bacillus produces a general septicemia, or, at least, it is found abundantly in the blood, after the infection of large numbers of bacilli, and that it does not form a diphtheria toxin, nor does it form any strong toxin of its own, for 8 c.c. of a seven-day culture sterilized with carbolic acid did not produce a reaction.

Experiments have been made to determine whether this bacillus is more virulent intraperitoneally than subcutaneously, but nothing very satisfactory has yet been found, as the pigs seem to die after about the same number of hours and peritonitis is always found at autopsy, although in those inoculated intraperitoneally the peritonitis is of a more extreme degree.

Here it is of interest to note that Spronck endeavored to differentiate the true B. diphtheriæ from the pseudo by means of inoculation with antitoxic serum. For the most part his cultures of pseudo, in doses of 1 to 3 c.c., produced edema, ruffling of fur, loss of appetite, and loss of weight. After a few days these symptoms disappeared and the pigs were apparently normal again. The same results were obtained when the protective serum was injected six to thirteen hours before the culture, only the pathogenic symptoms were exaggerated; however, no fatal results were obtained in any case. When the pseudo is of sufficient virulence to produce edema Spronck thinks the serum an accurate means of diagnosis.

This series of experiments was afterward repeated by C. Fraenkel. He worked with seven pseudos from the nose and eyelids of sick and well, also one from a conjunctiva crouposa. When 5 to 10 c.c.

were put into the body he noticed more or less extended swelling and infiltration which disappeared after a few days, but none of the changes of the general nature which Spronck had mentioned. This was the same even when he injected 56 c.c. of a young or old culture. But the injection of the antitoxic serum either before, at the same time, or after the injection of the culture failed to prevent the slight local changes, which took place much the same as if the serum had not been injected. This fact rather shakes the belief of Fraenkel that the diphtheria and the pseudo belong together.

Fraenkel also noticed much uncertainty in regard to the results obtained from the inoculations, into pigs, of the same cultures, in either the same or varying amounts, though he never obtained fatal results. He thinks that these variations are probably due to the "individual disposition" of the guinea-pig, and also somewhat dependent upon the location and manner in which the inoculation is made. This variation in the animal experiments, not only in different, but also in the same cultures of pseudo, make the differentiation between it and the true B. diphtheriæ, doubly hard. But both Spronck and Fraenkel agree that the bacillus which gives a *clear* acid reaction in glucose bouillon is *usually* virulent.

Much assistance in regard to the relative number of bacilli actually present in the throat and ear has been given by the practice of taking smears at the same time as the cultures. This seems a much more accurate method of determining the proportion of the bacilli to other bacteria, for if some spreading organism be present, as pyocyaneus, a few colonies of the bacillus would be overrun, while the bacilli would be evident in the original smear. On the other hand, from blood-serum tubes, one might think that there were relatively a larger number of bacilli present than is actually the case, for the diphtheria bacilli outgrow, for instance, streptococci which ought to be found with them. Probably bacilli of this kind are frequent, for several bacilli which came from quite different sources have been worked out by Drs. Park and Williams along the same lines. They, also, have proven virulent in doses of from 3 to 10 c.c. and been unaffected by diphtheria antitoxin.

Although this work has not been carried sufficiently far to obtain very important results, still it has suggested many points of interest. The fatal results obtained when the diphtheria antitoxin was injected with the culture seem to be different from anything reported up to this time. Can we say that this is an attenuated diphtheria, a variety of that group, or an entirely different organism? It would seem that there are many points in favor of any one of these conclusions, but it is to be hoped that further work will determine this more definitely. Another point of interest is its connection with otitis media.

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AN EXPERIMENT IN TRANSPLANTATION OF THE ENTIRE HUMAN OVARY.[1]

By James H. Glass, M.D.,
of Utica, N. Y.;
Surgeon in Charge of the Faxton Hospital.

Miss S. C. (indicated for convenience as Case No. 1), by occupation a housemaid, aged thirty-nine years, applied for treatment May 9, 1898, two years before having had a double oophorectomy for a somewhat indefinite condition. The menopause, supervened promptly, sexual instinct being diminished, and soon lapsing completely. The nervous symptoms so frequently following the menopause, natural or artificial, were present and characterized by marked mental depression, insomnia, giddiness, palpitations, heat flushes, perspirations, pelvic pains, and constipation. Nutrition was impaired; she was chloranemic, and incapable of the exertion incident to her usual occupation.

Examination demonstrated a uterus somewhat smaller than normal, flexed, and fixed posteriorly. A cautious prognosis was given, the patient being advised that she might expect some good effect from general treatment including the use of ovarian extract, and that improvement of the pelvic pain might possibly follow release and ventrofixation or suspension of the flexed and adherent uterus. Having been under general treatment almost constantly since her operation without benefit, she naturally lacked confidence in medical measures and was impatient of delay of any procedure offering a remote probability of relief from her distressing condition. She urged immediate operation, and this was performed May 11, 1898. The uterus, having been disengaged, was suspended to the abdominal wall in front, all raw surfaces being carefully covered with peritoneum.

A brief history of Case No. 2 is interposed for the purpose of establishing the juxtaposition necessary in the conduct of the experiment: Mrs. A., aged seventeen years, married, no children living, was delivered of a dead child one year ago, the head having remained in the inferior strait several days. Extensive sloughing followed, leaving after cicatrization a canal at its narrow point five millimeters in diameter. The patient had been referred to me for such reconstruction of the vagina as might be possible through plastic operation, her physician believing that patency of the vagina was more or less es-

[1] Read at the Ninety-third Annual Meeting of the New York State Medical Society, held at Albany, January 31 and February 1 and 2, 1899.

sential to the preservation of the conjugal relation. The result following operation was good, the vaginal diameter without painful dilatation having been increased to twenty-five millimeters. The inadequacy of the canal, however, for possible future child-bearing was apparent, the necessity for the Cæsarian operation in her case explained should pregnancy supervene, and the patient recommended to have excision of both tubes or perhaps of one tube, and one ovary, for the prevention of conception. The latter alternative was accepted, the patient readily consenting to the employment of the amputated ovary in the transplantation-experiment proposed.

May 14th, three days after the abdominal section for the suspension operation in Case No. 1, both patients were anesthetized and brought to the surgery together, the most scrupulous care having been taken in the vaginal sterilization of Case No. 1. Resection of the tube and amputation of the ovary in Case No. 2 were rapidly performed, the healthy ovary being placed in gauze kept moist with warm normal salt solution in the interval of time between its amputation and implantation in Case No. 1, which was accomplished by incising the vagina and connective tissue down to the cervix, which was stripped up to the peritoneum with the finger, which membrane was carefully raised from its attachments to a point approximating the normal position of the ovary. All oozing was controlled by compresses wet in hot salt solution, and the amputated ovary anchored in position by closing the canal through which it was introduced by two tiers of fine cumol catgut, and the vagina lightly packed with silver gauze. Two days later I left the country for six weeks, instructing my assistant, who had followed the steps of the operation critically, that should there be the least evidence of non-viability of the ovary it was to be removed promptly. The recovery, however, was reported as uninterrupted. After my return I was informed by the patient with evident embarrassment that six days after the transplantation she had a condition of sexual erethism continuing for several days, during the period having had two erotic dreams. From this time she says she has continued to have a positive sexual impulse. Sixteen days after transplantation menstruation occurred, and lasted two full days. No recurrence of the menses followed, however, until December 22d last, when she again menstruated,[1] the flow continuing three days, being natural in color and consistence, and accompanied by a little pain. At this time, nearly eight months after transplantation, the patient has apparently regained her mental and nutritive equilibrium and says she is well, a statement borne out by her deportment, good color, and general healthful appearance.

Normal ovariotomy is followed so constantly by certain phases of denutrition and neurasthenia that there remains no reasonable doubt that the ovary has a function besides that of its external secretion or ovulation, which plays an important part in metabolism. Whether this is an internal secretion of unknown chemical composition which has the faculty of oxidizing organic phosphorized substances, carbohydrates, and fats, as maintained by Curatulo, or whether the ovary influences the elimination of organic toxins through the menstrual flow, as suggested by Spillman and Etienne, will perhaps be shown by the physiologist who now is actively engaged in an investigation of the phenomena presented by certain special organs of the body, and the effect of their secretions upon general and special nutrition.

Fehling's theory, that osteomalacia is a trophic neurosis due to excessive pathological activity of the ovary, with the well-known fact that the disease receives a fresh impetus after conception, has a new significance since Consentino has shown that ovulation continues during reproduction and is important negative evidence of the influence of the ovary and its secretion on nutrition. If further argument were necessary to demonstrate the modifying effects upon nutrition of the ovary, or its essential principles, we may refer to the experiments with ovarian extracts procured from the lower animals, original with Professor Werth of Kiel, which have been substantiated by Landau, Stouffs, Stehman, Jayle, Jacobs, Dunn, and many other eminent authorities who have conclusively shown that the administration of the extracts (which appear to preserve, their integrity in the presence of the digestive fluids or reach the circulation so little changed that their physiologic action is not materially interfered with), generally mitigates or completely relieves the train of disagreeable and distressing symptoms usually following the appearance of the menopause, natural or artificial, so long as the subject remains under the influence of the extract.

However feasible or desirable the operation may become, transplantation of the human ovary must always remain an uncommon operation by reason of infrequent opportunity to establish the juxtaposition necessary; but we see no reason why it should not become a recognized and successful procedure, notwithstanding the probable limited field offered for its execution.

At the suggestion of Professor Chrobak, Dr. Emil Knauer, whose experimentation began in 1895, has shown[1] (1) that in rabbits the ovaries may be transplanted from their normal to other positions; (2) that they may heal in as well on the peritoneum as between the muscular structure; and (3) that the ovaries thus healed in can not only be nourished but they are able to perform their functions, *viz.*, generate and ripen the ova, and possibly under certain circumstances attain their discharge. In a later

[1] Since the presentation of this paper the patient writes me that she again menstruated in February, 1899.

[1] *Centralblatt für Gynäkologie*, No. 20, 1896.

paper[1] Dr. Knauer reports births at the normal end of pregnancy after transplantation of ovaries in rabbits, which he succeeded in attaining with a rabbit which he had operated upon sixteen months before.

In this case he was able to show, thirteen months after the operation, the successful transplantation of ovaries by means of laparotomy. The perfect ability of function of transplanted ovaries was thus proven beyond a doubt. He has since continued his experimentation, trying the transplantation of ovaries from one animal to another. During the year a paper referring to these experiments[2] will be published.

That the range of usefulness of ovarian therapy, immediate through its introduction directly into the circulation by transplantation, or otherwise, or intermediate through the use of extracts by the mouth, is being rapidly narrowed down, there can be no doubt. Since Polk, ably seconded by other great specialists, early in the present decade inaugurated and urged a greater conservatism in operations upon the uterine appendages with a view to the preservation of the functions of ovulation and menstruation, and so consistently and practically demonstrated the tenability of his conclusions in his work, there has come a revolution of feeling as to our responsibility to this class of cases and a better conception of the necessity for the preservation of these organs, until now the better element of the profession would brand as criminal the individual who, with ruthlessness or upon a flimsy pretext, would deprive the patient intrusted to his care of these organs of the usefulness of which, *aside from the marital and reproductive aspects*, there remains so little doubt.

Christopher Martin in a recent article tells us that none of the nervous and nutritive symptoms supervene in operations upon the adnexa in which an ovary or a part of one has been left; that there is physiologically *no difference* in the woman who has *two ovaries*, *one ovary* or a *fraction of that organ.* This proposition tallies with that of the writer who, for the past two years, has made a consistent effort to save an ovary or a part of one in a great variety of pelvic operations, from Cæsarian hysterectomy for cancer down the list of procedures to the most simple, having many times curetted, cauterized, resected, amputated, on one, sometimes on both, sides with no more serious result than two abscesses and a single hyperplasia of the ovary (it having quadrupled in size in three weeks from the time of the original operation for pyosalpinx of the opposite side)—conditions easily controlled by vaginal sections and a trifling delay in convalescence, an insignificant sacrifice, we think, for the stake involved. In my personal experience with the convalescent after abdominal operations since adopting a definite plan of ovarian conservatism I am certainly less frequently confronted by those profound nervous disturbances and malnutritions formerly ascribed to prolonged shock and exhaustion. May not the smoother convalescence in these cases be reasonably attributed to the continued influence of the ovarian secretion? I trust the time is not far distant when a greater conservatism aided by an improving technic and dexterity shall make it rarely necessary to consider organo-ovarian therapy and surgery except in their several relations to the menopause of nature.

[1] *Centralblatt fur Gynäkologie*, No. 9, 1898.
[2] Personal communication.

THE SERUM TREATMENT OF DIPHTHERIA IN THE NEW YORK FOUNDLING HOSPITAL DURING 1898.[1]

By W. P. NORTHRUP, M.D.,
of New York.

During 1898, 103 patients with diphtheria were treated with antitoxin at the New York Foundling Hospital, with 13 deaths, a mortality of 12½ per cent. The diagnosis was confirmed by bacteriologic cultivation in pharyngeal cases. Laryngeal cases to the number of 12 have been included, in which on one cultivation the bacteriologic report was negative. It is stated by Health Board experts that frequently such cultures taken from the pharynx are negative, while at the same time the lesion has been proved to be laryngeal diphtheria. Two of these patients required intubation, but all recovered. Experience at the Foundling Hospital leads the writer to believe that that these cases may fairly be considered diphtheritic. Rejecting these twelve cases altogether leaves a mortality of 14 per cent., which figure we may consider very satisfactory.

	CASES.	DEATHS.	PER CENT.
Pharyngeal	67	4	.06
Laryngeal	36	9	.25
Total	103.	13.	.12½.

Statistics of immunity are not easily compiled. The strongest statement that can be made from the Foundling Hospital is that there have been so few cases as 103 (most of these patients even being brought in from the out-patient department) and that we have within two years (see Medical News, December 25, 1897) passed through an epidemic of measles without having a single fatal complication of diphtheria.

The antitoxin used in recent years has been that made by the Health Department of the City of New York. There have been no antitoxin joints, no pains, and transient rashes in (estimated) only one-fourth to

[1] Read before the New York Academy of Medicine, February 16, 1899.

one-third of the cases. These have been of so little moment as not to have been recorded in the histories. As an immunizing agent it has attained the highest ideal of therapy; it has preserved most lives, and preserved them intact.

In many ways the Foundling Hospital is a favorable place in which to test antitoxin. Greater New York thrusts into our care a large proportion of poorly developed new-born infants. Five of the thirteen fatal cases occurred in children under one year of age, and ten in those under two years; five patients that died were under one year of age; five were between one and two years, and three were between two and three years.

It has been assumed that it requires high intellectual attainments to employ logic and to eliminate at the same time. This audience has been warned against "eliminations" as not for them. Note that Case I. has not been eliminated, and that several more, hopeless at the time of injection, are included.

CASE I.—H. L., aged eight days. Intubated. Tube extracted on third day. Died fourteen days after entrance to hospital. *Autopsy:* Bronchopneumonia.

CASE II.—A. K., aged one year, seven months, and eleven days. Returned from out-patient department with intubation-tube in larynx. Antitoxin three times. Intubated four times in all. Died in convulsions nine days after admission. *Autopsy:* Erosion and inflammation of epiglottis and larynx; bronchopneumonia.

CASE III.—C. S., aged one year and eighteen days. Treated in St. John's Hospital for one month for bronchopneumonia and enteritis. Admitted to quarantine. Condition: croupy, marasmic, bronchopneumonia. Intubated. Antitoxin. Tube extracted on seventh day. Croupy condition cured. Signs of pneumonia. Died seventeen days after intubation. *Autopsy:* Chronic bronchopneumonia; markedly emaciated.

CASE IV.—W. W., aged one year, one month, and nineteen days. Markedly croupy. Dyspnea. Intubated. Child restless. Respiration very rapid. Died thirty-six hours after admission to quarantine *Autopsy:* Rickets, extensive bronchopneumonia.

CASE V.—J. McM., aged one year and three months. Within an hour after admission was intubated. Colitis. Died in a convulsion twenty-six hours after admission. Bronchopneumonia.

CASE VI.—M. T., aged one year, four months, and twenty-one days. Very poorly nourished. Not seen by a physician until had had diphtheria for (about) four days Very croupy. Intubated. Died about thirteen hours after admission to the hospital. Diffuse bronchopneumonia; chronic colitis.

CASE VII.—J. V., aged two years, nine months, and seven days. Dyspnea. Intubated twelve hours after admission. Died seven days after extraction of tube, and fourteen days after croupy condition began. Bronchopneumonia; diphtheria.

CASE VIII.—A. S., aged nine months and twelve days. Intubated. Diagnosis: subglottic stenosis. Antitoxin. Died seventeen hours after intubation. Under treatment about twenty-four hours. Diphtheria-nasal, pharyngeal, laryngeal; subglottic stenosis; malnutrition; rickets.

CASE IX.—H. S., aged one month and three days. Died about forty-eight hours after admission. Disease probably had existed three or four days before patient was seen by a doctor. Tonsillar and pharyngeal diphtheria.

CASE X.—H. S., aged four months and twenty-nine days. On seventh day lung involvement. Died twenty-four days after admission. Under treatment twenty four days. Pharyngeal diphtheria; bronchopneumonia.

CASE XI.—E. B., aged eight months and eleven days. Rachitis. Râles in chest. Bronchopneumonia diagnosed on fifth day. Died one month after admission to quarantine. Extensive bronchopneumonia; rachitis; pharyngeal diphtheria.

CASE XII.—J. T., aged two years, nine months, and nineteen days. Markedly croupy. On seventh day after admission signs of pneumonia. Died one month after admission to quarantine. *Autopsy:* Lobar pneumonia, right side, complete. Not intubated.

CASE XIII.—C. D., aged two years and seven months. Tonsils neurotic; sloughed away. On eighteenth day otitis media and double mastoiditis. Died after a convulsion seven weeks after beginning of diphtheritic attack. Had been in coma about six hours. Mixed infection.

Finally, I submit that 12½ per cent. fatality in infant foundlings is an extremely good result; that in immunizing, antitoxin has attained even higher, almost ideal results.

CLINICAL MEMORANDUM.

A CASE OF CHOLECYSTITIS, WITH STRICTURE OF THE DUCTUS CHOLEDOCHUS.[1]

BY FREDERICK E. EASTON, M.D.,
OF SYRACUSE, N. Y.

ON August 9, 1897, I was called to attend Miss B. W., aged twenty years, a resident of Chicago, but visiting in this city. I found her suffering from acute pain in the epigastrium, with nausea and frequent vomiting. Her pulse was normal, temperature 99° F., tongue heavily coated, bowels constipated, and skin slightly jaundiced. Her urine was dark, chocolate-colored, but nearly normal in quantity.

About a week previously she had had an attack of acute pain in the epigastrium, with indigestion, which was easily relieved. During the month of March preceding she had had an illness which was called malarial fever, during which she had had pain and vomiting, but no jaundice. She had not been in perfect health since this illness, having been troubled frequently with indigestion.

[1] Read before the Syracuse Academy of Medicine, April 4, 1899.

The present attack differed from the preceding ones, in that the vomiting and pain were more severe, and she was jaundiced. A diagnosis of biliary colic, possibly due to gall-stones, was made. The pain was relieved by morphin, hypodermically, and the vomiting controlled by subnitrate of bismuth, oxalate of cerium, and muriate of cocain. The obstinate constipation was overcome by means of calomel, salines, and copious enemas. The stools, which were putty-colored, were watched for calculi, but none was discovered. The diet was restricted to liquids in small quantities. After the acute symptoms had subsided compound ox-gall tablets were also used.

The patient improved rapidly, although the jaundice increased, but at the end of five days she was about the house apparently convalescent, and I was congratulating myself that the obstruction had been relieved; but on August 25th I was again summoned in haste, and found the same condition of affairs as in the preceding attack, but in a more aggravated form. The pain was referred more to the right hypochondriac region, and was more severe in character. Her temperature was 100° F., and pulse 99. At the end of five days she was entirely free from pain, although some tenderness was still present. She was weaker, more emaciated, and more jaundiced, and gave the appearance of one having passed through a prolonged illness. The urine was examined and found to be charged with bile, but no albumin was present, and it was negative in other respects. Early in September another and more severe attack occurred. Her temperature reached a higher point, her pulse was rapid, at times 120 per minute, her abdomen was tender, and she was extremely emaciated. On palpation the distended gall-bladder could be distinctly felt, which rose and fell with each deep respiration.

Dr. W. C. Kellogg, whom I called in, agreed with me that we had to deal with a case of cholecystitis, cholangitis, associated with gall-stones, which demanded surgical interference. Dr. Elsner was asked to see the case with us, which he did September 12th, and his views of the condition being similar, immediate operation was advised. The patient was taken to New York, and on September 20th Dr. Longe operated.

An incision, two inches long, was made in the right hypochondriac region, parallel to the free border of the ribs. The gall-bladder was found to be thickened and distended, and contained a calculus. The common duct was thickened, but free from impacted calculi. The cystic duct was occluded. The gall-bladder was drawn up against the opening in the peritoneum and stitched firmly to it, effectually closing the opening into the abdominal cavity. This line of stitches was then protected by a narrow strip of iodoform tape. An aspirating-needle was then plunged into the gall-bladder, and a quantity of bile-stained pus removed. The opening made by the needle was then enlarged by the thermocautery, and the calculus seized with forceps and removed. It was the size and shape of a nasturtium seed. The gall-bladder was then cleansed, a long rubber drainage-tube was inserted and fastened in place, the wound was loosely packed with iodoform gauze, and the patient was placed in bed. Following this operation there was a slight improvement; her temperature fell, her pulse improved, and the jaundice lessened, but the stools remained putty-colored, and there was no evidence of bile having passed through the common duct. On October 1st she had another attack of biliary colic, accompanied by rapid pulse, high temperature, etc. This led Dr. Longe to believe that the patient had an obstruction in the common duct, and prompted him, October 6th, notwithstanding that at this time the condition of the patient was nearly hopeless, to attempt another operation.

On opening the common duct no stone was found, in spite of most careful search, but a cicatricial contraction was felt at the point of entrance into the duodenum. A new opening was made into the gut, and the common duct was opened and stitched to it. The patient rallied from the operation much better than was anticipated, and during five days everything went well, when, upon removing the tampon, the suture line was found to leak, and the duodenal contents to escape through the wound. This was overcome by persistently keeping the patient on her left side, and skilful tamponing. Under this treatment the patient improved rapidly and made an uneventful recovery, returning to Syracuse in December with but a small fistula into the gall-bladder, which soon healed.

This case presents some very unusual and interesting features: first, the history of febrile disturbance, with pain, five months prior to the obstruction of the common duct in August, at which time I believe there was duodenal ulceration near the opening of the common duct, with accompanying cholangitis. This terminated in recovery, but left a cicitricial contraction of the common duct; second, the small calculus which doubtless would have passed through the common duct during one of the attacks mentioned had it not been for the cicatricial contraction at its outlet. The stone acted as an irritating foreign body and caused empyema of the gall-bladder. This would have continued no doubt until perforation or until the patient died from exhaustion.

MEDICAL PROGRESS.

Hernia in Hebrew Soldiers.—Ssolomka (*Centralbl. f. Chir.*, February 25, 1899) quotes the statistics which were gathered in the Russian army in order to determine whether hernia occurred more frequently in one race than another. It had been said that the Hebrews brought on hernia oftentimes in order to avoid military duty. The statistics showed that among the Russians 1 man in every 250 had to be rejected on account of hernia; 1 in 200 among the Poles; 1 in 175 among the Germans, while among the Hebrews 1 in every 35 had to be rejected on this account. The writer admits that the Hebrews were of slighter build than the others, but he does not attempt to explain the great discrepancy between the figures as given.

The Etiology of Seasickness.—Darnall (*Jour. Amer. Med. Asso.*, March 11, 1899) explains seasickness as the overstimulation of some portion of the sensitive mu-

cous membrane lining the semicircular canals. Most of the disagreeable sensations in the body are produced by overstimulation of some one of the special senses. Too much light hurts the eye; too loud noise the ear; too rough handling the nerves of touch, etc. Hence too strong, or too-long-continued motion in a given direction hurts the membrane of some part of the semicircular canals, and by well-known reflex action, headache or nausea results. Naturally but little relief from seasickness may be expected as long as treatment is directed toward the stomach. Attention should be turned to the nervous condition of excitability.

The Carcinomatous Nature of Malignant Growths Arising from Pigmented Moles.—GILCHRIST (*Jour. Cutan. and Genito-Ur. Dis.*, March, 1899) contributes from the pathological laboratory of the Johns Hopkins University a study of the histogenesis of pigmented moles, with a report of two cases of malignant new growth arising from them. Such tumors have long been regarded as sarcomatous, but Gilchrist's study confirms the view of Unna, that these growths are epithelial and should be properly placed among the carcinomata. One of the two cases of melanocarcinoma described occurred in a negro. The patient was a man fifty-eight years of age, who presented eighty-seven metastatic tumors, scattered over the entire body surface. The primary growth was a pigmented nodule in the sole of the right foot, which had appeared four years before, and recurred after excision. The smaller nodules were freely movable beneath the skin. There was no enlargement of the lymphatic glands. The patient was put on hypodermic injections of Fowler's solution in increasing doses, but death occurred eight months later. The second case was one of single primary pigmented new-growth of the face, originating in a small pigmented mole. Thorough excision was performed. Microscopic examination of prepared sections showed all stages of commencing malignant downward growth of the cells of the epidermis, with accompanying excessive increase in the production of pigment, demonstrating beyond a doubt that the growth was of epidermal origin, and properly a melanotic carcinoma.

A study of pigmented moles excised from five other individuals showed that masses of epithelial cells becoming detached from the epidermis, go to form the structure of the mole itself. Since the cells which make the structure of the mole are of epidermal origin, any malignant growth springing from the cells should be regarded as carcinoma and not sarcoma.

Splenic Anemia.—ALFRED COLES (*The Blood*, London, 1898) gives splenic anemia a definite position among diseases of the blood. The disease has hitherto received indifferent recognition, and its literature is scant. Coles describes splenic anemia as characterized by marked increase in the size of the spleen, progressive anemia, an absence of leucocytosis, and a similar absence of enlargement of the lymphatic glands. Such a definition excludes leucemia on the one hand, and the ordinary forms of Hodgkin's disease on the other. The disease may be characterized in addition by attacks of colic-like pain in the left hypochondrium, nausea, vomiting, and diarrhea. These occur in paroxysms, and are generally followed by a shorter or longer interval in which the patient feels comparatively well. The spleen is invariably enlarged, and may reach the level of the iliac crests. It is uniformly increased in size, and its shape is unaltered. The liver may be normal or may be enlarged. There may be jaundice. Epistaxis may be an early and prominent symptom. Splenic anemia is distinguished from Hodgkin's disease by the entire absence of any enlargement of the lymphatic glands. The examination of the blood is not pathognomonic. The changes in the blood may be similar to those in Hodgkin's disease. On the other hand, the blood examination is important, as the disease cannot be differentiated from leucemia without it. The red blood-corpuscles frequently fall to two and one-half million per c.mm., and may be further reduced. Microcytes may be present. Hemoglobin is reduced to a much greater degree relatively, and accordingly the color-index of the individual corpuscles is very low, even as low as thirteen per cent. The leucocytes are usually normal in number, and no characteristic changes in the differential count are described. Splenic anemia progresses to a fatal termination in from six months to two years. Its early differentiation from other pathological blood conditions is important in view of treatment. Splenectomy has resulted in cure in three cases of splenic anemia. This operation is almost invariably followed by death in leucemia.

Artificial Eyeballs.—SNELLEN, Professor of Ophthalmology in the University of Utrecht (*Ophthalmic Rev.*, December, 1898) reports his modification of the shell-shaped artificial eyeball, which he considers of advantage, in that the cavity behind the shell is done away with, and the mobility of the artificial eye increased. His device is a double shell of hollow glass, especially designed, where simple enucleation has been performed, to obliterate the cavity and prevent the wounding of the soft tissues behind by the thin edges of the single glass shell. This double-walled shell is fitted to the small stump remaining after evisceration by a concave posterior surface. When the conjunctival sac is emptied an artificial eye-globe with a plane posterior surface is used. The original hollow eye-shell is retained for cases of atrophic eyeball.

Rupture of the Uterus; Child Saved by Post-Mortem Section.—KENDALL (*Ann. of Gynec. and Pediat.*, March, 1899) reports two cases of rupture of the uterus in which after the death of the mother the life of the child was evident from its motions in the abdominal cavity. The abdominal wall was, therefore, slit up, and the child extracted. One of the children died in a few minutes, but the other was saved, a finely formed boy, weighing ten and one-half pounds. The mother was a primipara, only eighteen years of age.

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SATURDAY, APRIL 29, 1899.

IS SANARELLI'S BACILLUS ICTEROIDES THE CAUSE OF YELLOW FEVER?

As the warm weather and rainy season of the first year of our possession of Cuba and Puerto Rico approach, interest in everything that concerns yellow fever is redoubled. In our department of "Scientific Jottings from Tropical Countries" we recently published an abstract of some recent opinions advanced by Sanarelli himself. Further study has only convinced him more surely that his bacillus icteroides is the true and only cause of yellow fever. He has found that it has a special symbiotic favoritism for molds, that it grows by preference and more luxuriantly in the presence of molds than when alone. This symbiosis of micro-organisms, analogous somewhat to parasitism in larger organisms, is not a new biological fact. It is of extreme interest in this case, however, as it seems to explain the preference yellow fever has for the sea-shore and vessels and docks where the constant dampness causes molds to grow with special luxuriance.

We publish this week a preliminary note from Drs. Reed and Carroll, who have been investigating, in the laboratories at Washington, the specificity of the bacillus icteroides (Sanarelli) and especially its relations to the bacillus *x* described by Sternberg some years ago in his investigations of yellow fever in Cuba. Sternberg, however, did not pronounce the bacillus *x* the cause of the disease.

Drs. Reed and Carroll do not consider Sanarelli's bacillus to be the specific germ of yellow fever. It is not the same as Sternberg's bacillus *x* which is probably a form of the colon bacillus but it has so many points of similarity with the bacillus of hog cholera that these observers think it to be only a variety of that micro-organism.

There the question must remain awaiting further investigation. Certainly these last observers seem to have studied the question very carefully before announcing their conclusion. The impression has, we think, been gaining ground generally in bacteriological circles that Sanarelli's bacillus icteroides has been accepted too hastily, especially in certain European countries, as specifically pathogenic of yellow fever. The enthusiasm was not so marked in this country, while in Germany the supposed discovery attracted very little attention. The Germans are, to be sure, not much interested in yellow fever but, even after careful consideration, Sanarelli's investigations were not considered so definitely conclusive as to put the question of specific pathogenesis beyond reasonable doubt. There remains open for ambitious American bacteriologists a very interesting problem of etiology whose study the United States' possession of Cuba and Puerto Rico will greatly facilitate and whose importance can scarcely be overestimated. Any discoveries in this matter will confer lasting fame upon the investigators.

THE NEW DISPENSARY LAW OF NEW YORK.

After having passed the Senate and Assembly almost without a dissenting vote, the bill, amending the State Charities law, relative to the licensing and regulating of dispensaries by the State Board of Charities was signed by Governor Roosevelt on April 18th and will go into effect on the first day of next October. The text of the bill will be found elsewhere in this issue.

The enactment of this law marks the culmination of years of conscientious effort, and too much praise for this successful issue cannot be bestowed on those having the matter in charge. The gross mismanage-

ment of dispensaries in this city has been a public scandal for a generation or more, the apparent object of many of them being to treat annually as many applicants as possible without regard to their worthiness. Carefully compiled statistics have shown that during the year 1897 one-fourth of the population of the City of New York received free treatment at the dispensaries. It is more than probable that this total could have been divided by six if proper investigation had been made of the claims of the applicants and measures taken in accordance with the findings. Unwillingness on the part of managers to institute reforms, of their own accord, and thus harmonize their work with the growing public conscience and trend of opinion made legislative enactment imperative.

The bill which has just become a law is the same, with a few unimportant modifications, as that which was introduced during last year's session of the Legislature, and which failed to be reported back from the committee to which it was referred. The State Board of Charities, while possessing the power to issue licenses and nominally to regulate the management of dispensaries of the State, has never, until now, had conferred on it authority to discipline any institution which failed to conduct its operations in accordance with the board's requirements. The re-result has been that its suggestions or recommendations in this connection have uniformly been ignored. It has repeatedly urged legislation looking toward the correction of this defect, but without satisfactory result. The new law confers upon the board the desired power, subject to certain restrictions, and there is every reason to suppose that it will be exercised along such lines as will prove fairest and to the best interests of all concerned.

Unless we mistake not this is the first instance in which it has been declared, by any law making body, to be a misdemeanor, punishable by a fine, for any person to obtain free medical or surgical treatment at a dispensary under false representations. While the law will in no wise limit or prevent deserving persons from receiving such treatment, but, on the contrary, will increase the facility with which they may obtain it, it will serve to effectually bar all unworthy applicants from participating in the benefits to which they have neither moral nor legal right. The crowds of well-dressed people which are accustomed to throng the waiting rooms of the dispensaries to the exclusion of the needy poor will be greatly diminished or will disappear and the young dispensary doctor will have less to do, but the direct result will be the withdrawal of tacit encouragement toward pauperism, the inculcation of a proper spirit of self-respect in the worthy other half whose necessities compel recourse to charitable aid, and finally, will redound both to the welfare of the community at large and of the profession.

SECOND ATTACKS OF THE INFECTIOUS FEVERS.

IT is becoming more and more certain, now that medical statistics are being kept with greater exactness, that second attacks of the infectious fevers are not so rare as was formerly thought. It is especially worth noting because the old idea, that one attack of a specific disease gave almost assured immunity from a second attack, sometimes led people to take insufficient prophylactic precautions when exposed to the disease for a second time. Even physicians permitted such exposure or protested but slightly against it. In the ordinary infectious diseases of childhood, it is now definitely known that second attacks are by no means rare, in fact are so common that no assurance of the existence of immunity in any given case is justifiable.

The subject has recently interested Professor Gerhardt of Berlin, who, besides being a distinguished general clinician, is the well-known editor of a standard German work on children's diseases. He has carefully collated the personal experience of his own medical students in scarlet fever and measles during a number of years. Taking their statements in connection with the statistics gathered from his hospital and private patients he is able to announce the following opinion: Of ordinary healthy young men about 20 per cent. have not had scarlet fever; about 1 per cent. of them have had two attacks and 10 per cent. of scarlet-fever patients, who have passed the period of youth, are experiencing their second attacks of the disease. As regards measles, about 6 per cent. of young men in the third decade of life have not had the disease, about 2 per cent. have had repeated attacks, while of the young men of this age who acquire measles about 13.5 per cent.

have had the disease previously. One of Gerhardt's students had had seven distinct attacks of measles.

Gerhardt's experience is not an unusual one. In "Progressive Medicine" Dr. Blackader quotes Feltz, who reported from Vienna certain undoubted cases of relapse of measles within a month after the first attack. He also cites Emmet, who has had a similar experience. He has observed altogether 122 cases of second attacks of measles occurring at varying intervals. There are a number of American authorities on children's diseases who have been calling attention to this feature. The subject is deserving of careful investigation and in this matter the statistics of a large number of general practitioners would be of great value. We should be glad to be able to contribute to the further elucidation of this important question by the publication of the personal experience of men whose large numbers of cases in family practice will undoubtedly throw conclusive light on the subject.

PROPHYLAXIS AND TREATMENT OF INTESTINAL OBSTRUCTION.

The last number of *Schmidt's Jahrbücher* contains a review of some interesting contributions to this important subject. Professor Heidenhain, in discussing the cases that have come under observation in the clinic at Greifswald during the past few years, maintains that clinical experience absolutely demonstrates that intestinal obstruction may be in some cases the result of a purely functional disturbance of intestinal peristalsis. In three cases a spastically contracted portion of small intestine was found at operation as the cause of the acute symptoms. The serious disturbance of peristalsis had been brought about in one case by a stricture of the rectum high up, in a second by a volvulus involving the large intestine at the sigmoid flexure, in the third by the presence of a roundworm.

In cases in which any chronic disease of the intestine exists every possible precaution should be taken to avoid disturbing the already irritated peristalsis by anything calculated to produce additional reflex excitation. Only the most bland food should be permitted and every excess strenuously prohibited. Acute intestinal obstruction from bunches of roundworms knotted together have been noted before but now for the first time the direct irritation, due to the presence of a single worm, has been reported as causing sufficient spastic interference with peristalsis to set up acute obstructive symptoms.

Three patients in whom complete intestinal obstruction was diagnosed were relieved by high injections. Under these circumstances doubt still remains whether the condition was due to any of the ordinary serious causes of true obstruction or was occasioned by an extreme degree of coprostasis. Heidenhain thinks that obstruction due to ileus at the sigmoid flexure, a not infrequent condition, may be relieved by injections. Not, however, if the twist of the gut is more than 270°. Operation for this condition, followed by fixation of the intestine has given excellent results in Heidenhain's hands.

An interesting commentary on Professor Heidenhain's success with high injections in certain cases of acute obstruction is found in the report of Dr. Barker's experience with fifteen such cases. In six cases he succeeded in reducing the intussusception by water or air injections. The tumor so changed its character on palpation that no doubt of the reduction seemed possible. In every case, however, it recurred, in a few hours could be felt as before, and necessitated operative interference. Of the fifteen patients ten recovered. Eleven of the patients were children under sixteen months of age, one was an adult, aged thirty-two; the others were children, aged respectively, four, five, and twelve years.

While injections of air and water still have a place in the therapeusis of obstruction they must evidently not be allowed seriously to delay surgical procedures which are always to be thought of at once. In intussusception in children where it was hoped injections would be effectual they have proved of doubtful utility and may only make the eventual prognosis worse by delay. It is clear, however, that as diagnosis becomes more exact operations are undertaken earlier, and the percentage mortality from acute intestinal obstruction is ceasing to be the opprobrium to modern surgery that it formerly was.

SUGGESTIVE DISCUSSION ON MALARIA.

The recent discussion on malaria at the New York Academy of Medicine, the last instalment of which we publish this week, brings out very well the last and best medical opinions on this interesting

subject. So much convincing material with regard to the mosquito-borne theory of the disease has accumulated during the last year or two that even the most conservative medical men must be ready to adopt opinions not unfavorable to it at least. The observations made by English and American investigators regarding hematozoic parasites, in general, have been confirmed by Italian students in respect to the parasite of human malaria, in particular.

Hereafter, practical prophylaxis of the disease and the problem of public health in malarious districts must include the study of the mosquitoes of the neighborhood and the adoption of means for the prevention of their multiplication. A very interesting set of observations that should occupy attention all over the country will have reference to the possibility of the introduction of malaria, by returning soldiers, into parts of the country hitherto unaffected by the disease. Many of them have acquired in their Southern and Cuban experiences chronic forms of malaria which may run an almost latent course, though their blood still contains at times some of the malarial parasites. Malaria has been known to develop *de novo* in a hitherto virgin vicinity under such circumstances, so that careful observation may be rewarded by some facts of great value to the present theories of the etiology of the disease.

Dr. Ewing's announcement that he had seen in one case, and had good grounds for suspecting in others, the transformation of the estivo-autumnal type of malaria into the tertian, is somewhat startling just now when most of us had settled down to the views promulgated by Italian observers that malarial parasites are multiple in species. It is in accord with the present trend of thought on the subject, however, and should open some suggestive lines of investigation for those who have many of the returned soldiers under observation. The careful study of any malarial parasites that may be found in the blood of such patients can serve the very useful purpose of confirming or disproving this opinion of the occurrence of transitional forms, or of an absolute transformation of one form of parasite into another. The idea of such a metamorphosis is not absolutely new. Its possibility under the very different conditions that prevail in the tropical climate where the disease was acquired and the temperate climate in which the men have since lived seems very plausible. Painstaking American medical men have an excellent opportunity under the circumstances to add some very pregnant facts to the scientific as well as the clinical aspects of malaria.

ECHOES AND NEWS.

Health Department to Move.—The New York City Health Department will move from its present quarters in the Criminal Court Building to the building formerly occupied by the New York Athletic Club at Fifty-fifth street and Sixth avenue.

Buried Many Fathoms Deep.—Dr. Bachmann, the physician of the German deep-sea expedition, died suddenly on January 14th, and his body was lowered in the deepest place so far sounded by the expedition—5733 meters—near the Kakos Islands.

Non-Alpine Sanatoria for Consumptives. — The results in non-Alpine sanatoria of Germany have been sufficiently good to warrant the insurance companies in the country in paying between three and four million marks in 1898 for the erection and maintenance of such sanatoria for the people.

Publications in the Lay Press by Dr. Schenk. — There seems to be a general feeling of satisfaction in the medical profession of America over the announcement that the Vienna Academy of Medicine has decided to discipline Dr. Schenk for having made known his alleged discovery concerning the production of sex at will through the medium of the lay, in place of the medical, press.

International Congress of Life-Insurance Examiners.— The first International Congress of doctors connected with life insurance will be held at Brussels, September 25 to 30, 1899. Representatives from all the civilized countries of the world are expected to be present. An effort will be made at this Congress to establish universal formulas for the examination of applicants for life insurance.

The Psychic Study Society.—Among the stated objects of the Psychic Study Society, which was organized on April 20th in New York City, are, "the study of hypnotism and mesmerism and an inquiry into the alleged phenomena of clairvoyance, somnambulism, thought transference, and all matters of kindred nature, and the careful investigation of any reports resting on strong testimony of alleged apparitions occurring at the moment of death or otherwise," etc. A number of physicians are members.

Tuberculosis Hospital for the United States Marine Hospital Service. — By order of President McKinley, Fort Stanton, an abandoned military reservation in New Mexico, containing about 10,240 acres of land with the buildings thereon, has been transferred to the Marine Hospital Service for the care and treatment of cases of

tuberculosis coming under its jurisdiction. Preparations will be immediately made for its occupancy by the Service, and the buildings will be put in order for the reception of patients.

Increase of Attendance at the Medical School of the University of Paris.—According to the report of the council of the University of Paris the following is the comparative attendance at intervals of 6 years for the last 15 years. In 1885–86 there were 3696 medical students, in 1891–92, 4111; in 1897–98, 4494. During the same period the number of students in the law department has increased from 3786 in 1885 to 4607 last year. The number of students of pharmacy has remained about stationary, while the number devoting themselves to science has more than tripled, from some 400 to over 1300.

New York City Appropriations for Hospitals.—On April 2d Governor Roosevelt signed a bill empowering the New York City Board of Estimate and Apportionment to appropriate annually sums of money to any charitable, eleemosynary, correctional or reformatory institution, wholly or partly under private control, for the care and maintenance of its inmates. Payments are to be made only for such inmates as are received and retained therein pursuant to rules established by the State Board of Charities. The board may increase or diminish the sum now authorized to be paid annually to any such institution, association, corporation or society.

A Declining Birth-rate—An Increasing Marriage-rate in England.—The *Medical Press and Circular* of London calls attention to the fact that while the birth-rate in England has been steadily decreasing for some years the marriage-rate has been almost as steadily increasing. Our contemporary says that it offers no explanation of the fact, but that it evidently cannot be explained on any ordinary natural grounds. In the jubilee year, 1897, the marriage-rate touched the highest figure ever known in England—namely 16.0 per cent., but while in 1897 more persons entered upon matrimony than had ever been known up to the present time, during the next year, 1898, less births were recorded than during any corresponding period, at least in the last ten years.

Tenth International Congress of Hygiene.—It will be remembered that the last session of this congress was held at Madrid just before the breaking out of the late war with Spain. The next one is to be held at Paris, in August, 1900. The proceedings will be conducted in seven sections: (1) Microbiology and parasitology as applied to hygiene. Of this section Laveran is president and Netter, secretary. This section also will discuss the etiology of intestinal helminthiasis. (2) Chemical and veterinary science as applied to hygiene. (3) Hygienic engineering and architecture. (4) Personal hygiene. (5) Industrial and professional hygiene. (6) Military, naval, and colonial hygiene, and (7) General and international hygiene.

Still Another Medical Martyr.—Dr. Angelo Knorr, privat-docent in the veterinary department of the University of Munich in Bavaria, died last month from acute glanders. The disease occurred as the result of an inoculation during the course of some experimental studies on mallein, the toxin produced by the bacillus of the disease. Glanders is mainly an animal disease, seldom affecting human beings, and the studies on it were undertaken entirely for the purpose of preventing animal-suffering. When the cry goes up from rabid antivivisectors of the awful suffering inflicted upon animals in the laboratories of Europe, do they ever think of the numbers of young men who are ready and willing to risk health and even life itself in the study of the diseases of animals, in order to prevent suffering among them?

Mississippi Valley Medical Association.—The Executive Committee and the Committee of Arrangements of the Association have changed the date of the next meeting in Chicago, from September 12th–15th to October 3d–6th inclusive. The Autumn Fête to be known as the American Festival will be held in Chicago, beginning September 25th and ending October 9th with the laying of the corner-stone of the Federal building, when the President and the Cabinet will be in the city. During this time the railroad fare to Chicago from all points will be a one-fare rate for the round trip, without the necessity of certificates or signatures. The limit of the tickets is so long that a protracted stay can be made in Chicago in order to take advantage of the clinical facilities of the meeting as well as enjoy the added attractions of the Festival.

The First Woman Teacher of Medicine in Paris.—Mlle. Edwardes Pilliet, M.D., has just been appointed by the Department de l'Assistance Publique of Paris an instructor in certain medical branches. She is to lecture on physiology to the nurses at the Hôpital Lariboisiere, and to give instruction in bandaging to the attendants at La Salpétrière. These positions are not in connection with the medical department of the University of Paris, but with the training schools for nurses connected with the Department of Public Charity. Mlle. Edwardes Pilliet is the first woman to be accorded the honor of a teaching position in this department. It is safe to predict, however, that the time is not far distant when in Paris, under the auspices of the University of Paris itself, as in Bologna of yore, women will lecture publicly on medical subjects.

Wire-Pulling Extraordinary over a Dispensary Position.—The following story from the *British Medical Journal* of April 1, 1899, will serve to show that some of the profession across the water can give even American medical politicians points in wire-pulling for positions. The office of medical attendant at a dispensary not far from Dublin was vacant. The vote for the new incumbent it was rumored would be a tie. The evening before the election meeting one of the members of the board received a telegram saying that his country seat in the West of Ireland was on fire and asking him to come at once. He did so by the night express, but found everything safe and peaceful on his estate. When he returned the election was over. The board is now investigating the affair. Of course the elected candidate knows nothing about the telegram. He was of the opinion that the man so sud-

denly called away would have voted for him. All that is wanted now is some lapses of memory when the time for taking testimony arrives, and the whole thing will wear a wonderfully familiar air.

Yale Asks for $2,000,000.—The Bicentennial Committee of the alumni of Yale University has just published an address asking that $2,000,000 be contributed for University purposes in honor of the two hundredth anniversary of the institution, which will be celebrated in 1901. Of this sum $225,000 has been subscribed and without condition. Among the objects for which the money is to be expended we note these items of special interest to medical men: fund for instruction and scholarships in the Sheffield Scientific School, $250,000; biological laboratory, $150,000; instruction and scholarships in the Department of Medicine, $200,000; clinical building and Pathological Institute, $100,000; University Library, $200,000. If the present appeal proves successful and the enthusiasm amid which it has been proposed, the energy and promptness with which the matter has been taken up, and the proverbial willingness of the "Yale spirit" would seem to be an earnest of this, there is every reason to believe that a great medical department worthy of Yale University will flourish within the next ten years amid the classic shades of New Haven.

The Late Dr. W. W. Van Arsdale.—The following memorial notice was adopted by the New York County Medical Association at its stated meeting on April 17th and ordered published in the medical journals: *Resolved*, That in the death of Dr. W. W. Van Arsdale the New York County Medical Association has lost one of its most accomplished members. In addition to a thorough academic education, Dr. Van Arsdale passed successfully through the long course of study required at the University of Leipsic in Germany, from which institution he graduated with honors, and afterward served the required term of service in the great hospital of that city as pupil of, and assistant to, the distinguished Professor Thiersch. Returning to his native country he located in New York City, became connected as an assistant to the chair of surgery in the New York Polyclinic Medical School and Hospital in the early days of its organization, and served with such faithfulness and proficiency that he gradually rose to the professorship of surgery, which position he filled with entire satisfaction and held at the time of his lamented death. He was also assistant surgeon to the New York Cancer Hospital. For four years before his death he had been assistant visiting surgeon to Mount Sinai Hospital, where his conscientious and thoroughly scientific work was fully appreciated, and where his loss will be keenly felt. Dr. Van Arsdale was twice elected chairman of the Section on Surgery in the New York Academy of Medicine, and was an earnest working member of the New York Surgical Society. He contributed many valuable papers upon scientific subjects to the various medical journals, and was justly considered one of the clearest writers of his day upon surgical topics. *Committee*: John A. Wyeth, M.D., Chairman; Francis J. Quinlan, M.D.; A. Ernest Gallant, M.D.

New York's New Dispensary Law.—The following is the text of the Dispensary bill which was signed by Governor Roosevelt on April 18th last: "Section 1. Article one of chapter five hundred and forty-six of the laws of eighteen hundred and ninety-six, entitled 'An act relating to State charities, constituting chapter twenty-six of the general laws,' is hereby amended by inserting at the end thereof the the following sections: Sec. 19. What is a dispensary?—For the purposes of this act, a dispensary is declared to be any person, corporation, institution, association, or agent, whose purpose it is, either independently or in connection with any other purpose, to furnish, at any place or places, to persons non-resident therein, either gratuitously or for a compensation determined without reference to the value of the thing furnished medical or surgical advice or treatment, medicine or apparatus provided, however, that the moneys used by and for the purposes of said dispensary shall be derived wholly or in part from trust funds, public moneys, or sources other than the individuals constituting said dispensary and the persons actually engaged in the distribution of charities of said dispensary. Sec. 20. Licensing of dispensaries by the State Board of Charities.—A license may be issued by the State Board of Charities to a dispensary, as provided in this section. An application in writing for such license shall be made to such board in the form and manner prescribed by it, which shall be uniform for all schools of medicine. There shall be attached to such application a statement, verified by the oath of the applicant, containing such facts as the board may require. If, in the judgment of such board, the statement filed, and other evidence submitted in relation to such application, indicate that the operations of such dispensary will be for the public benefit, a license shall be issued to the dispensary applying therefor. The form of such license shall be prescribed by the board. A dispensary shall not enter upon the execution, or continue the prosecution of its purpose unless licensed by the State Board of Charities, as provided in this act. A license shall be issued, on application, to all dispensaries legally incorporated, and to unincorporated dispensaries conducted in connection with incorporated institutions at the time of the passage of this act. Sec. 21. Rules and regulations.—The State Board of Charities shall make rules and regulations, and alter or amend the same, in accordance with which all dispensaries shall furnish and applicants obtain medical or surgical relief, advice or treatment, medicine or apparatus. But such rules and regulations shall not in any case specify the particular school of medicine in accordance with which a dispensary shall manage or conduct its work or determine the kind of medical or surgical treatment to be provided by any dispensary. Sec. 22. Revocation of licenses.—The State Board of Charities or any of its members may at any and all times visit and inspect licensed dispensaries. They may examine all matters in relation to such dispensaries, and ascertain how far they are conducted in compliance with this law and the rules and regulations of the board. After due notice to a dispensary, and opportunity for it to be heard, the board may, if public interest demands,

and for just and reasonable cause, revoke a license by an order signed and attested by the president and secretary of the board. Such order shall state the reason for revoking such license, and shall take effect within such time after the service thereof upon the dispensary as the board shall determine. The said board is hereby directed to apply to the supreme court to revoke the license and annul the incorporation of any dispensary legally incorporated, or conducted in connection with an incorporated institution at the time of the passage of this act, for wilful violation of the rules and regulations made by said board. Sec. 23. Drug-store or tenement-house not to be used by dispensary; unlawful display of signs.—After the taking effect of this act, no dispensary shall make use of any place commonly known as a drug-store, or any place or building defined by law or by an ordinance of the board of health as a tenement-house; nor after such time shall any person, corporation, institution, society, association, or agent thereof, except a duly licensed dispensary, display or cause to be displayed a sign or other thing which could directly or indirectly or by suggestion indicate the existence of the equivalent, in purpose and effect, of a dispensary. Sec. 24. Any person who wilfully violates any of the provisions of this act, or any of the rules and regulations made and published under the authority of this act, shall be guilty of a misdemeanor, and on conviction thereof, shall be punished by a fine of not less than ten dollars and not more than two hundred and fifty dollars. Sec. 25. Any person who obtains medical or surgical treatment on false representations from any dispensary licensed under the provisions of this act shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not less than ten dollars and not more than two hundred and fifty dollars. Sec. 26. All acts or parts of acts inconsistent with the provisions of this act are hereby repealed. Sec. 27. This act shall take effect on the first day of October, eighteen hundred and ninety-nine.

NOTABLE BOOKS.

PRACTICAL HYGIENIC AND MEDICAL GUIDE FOR THE UNACCLIMATED IN HOT COUNTRIES, AS CUBA, PUERTO RICO, AND THE PHILIPPINES. BY FEDERICO MONTALDO.

THIS book was crowned by the Spanish Royal Academy of Medicine of Madrid just before the Spanish-American war was declared, and was recommended to prospective emigrants and colonists in the islands that have since passed under the jurisdiction of the United States. The recommendations it contains are strictly practical in character and evidently come from a man who has himself had a large experience in the tropics, and who has seen and knows thoroughly the dangers to which the unacclimated colonists expose themselves, and how these dangers may be avoided. During the next few years most American medical men will probably have friends and patients who are about to set out for these countries, and as they will be consulted about the precautions necessary it has seemed opportune to review some of the practical suggestions Dr. Montaldo offers.

Before setting out for the tropics every one is advised to consult a physician and on no account to go without his approval. Absolute contraindications of removal to a tropical climate are chronic diseases of important organs, especially of the gastro-intestinal tract, the liver, or the kidneys. The heat and the change of diet it necessitates, with the introduction of unusual forms of bacteria are almost sure to cause a certain amount of dyspeptic and gastro-intestinal disturbance even in the most healthy subjects. In those whose resistive powers are already below par serious illness that will be fatal or become hopelessly chronic will probably supervene. In these changed conditions, instead of dissipating heat in order to keep the body temperature up, the vital forces must neutralize heat reception from without in order to keep the temperature down to the normal. This produces an alteration in metabolism, and throws an excess of unusual work upon the liver and the kidneys. Substances absorbed, and in temperate climates, simply burned up in order to furnish heat, must now be excreted. Serious and unusual calls are thus made upon the excretory functions of these important organs, and their resistive vitality is distinctly lowered. While in this state they are not infrequently called upon to excrete the toxins of certain infectious diseases so common in the tropics that no one can hope to entirely escape them. It is evident then, if the adoption of the new environment is to be successful, that these important organs must be unimpaired in their functional capacity.

The choice of season for emigration is of the greatest importance. There are in tropical climates practically only two seasons, the wet and the dry. The wet is much the more dangerous for the unacclimated, and it is advisable that the newcomer be prepared for it by several months of previous residence in the country so that much of the unusual shall have worn off. Time spent in waiting for the favorable moment to emigrate is not lost, but will be more than compensated for by time saved from restrained methods of life, or perchance, confinement to bed during acclimatization at an unfavorable season England and Germany have issued formal advice to intending colonists in this matter and do not, unless from some serious necessity, send officials, civil or military, to tropical colonies during the wet season. This is a precaution which Spain, typically enough, despite her 400-years' possession of tropical colonies, as Montaldo points out, had never taken.

The constant dangers that threaten the unacclimated in tropical countries are, the heat, the sun, the changes of temperature which are quite different and much more marked than in temperate climates, the humidity, and malarial infection. The heat precludes the possibility of doing as much work as in a temperate climate, and to attempt it is to invite disaster. The intensity of the sun in its directness requires that the middle of the day shall be given

[1] *Guia practica, higienica y medica del Europeo en los Paises torridos* (Filipinos, Cuba, Puerto Rico, etc.). Par Federico Montaldo. Madrid: Ricardo Rojas, 1898.

up to rest within doors. To brave the noonday sun is foolhardy beyond peradventure. The custom of the inhabitants in this matter of midday rest must be unquestionably adopted. A sudden fall of 30° or more of temperature during the night is not uncommon in the tropics. Humidity is a marked feature of all tropical climates. It interferes with cutaneous perspiration and other functions and calls for special care of the skin, frequent bathing, warm as well as cool, and brisk rubbing in order to keep the skin functions at their acme of availability. For malaria quinin must be taken as a prophylactic in doses of 5 grains or more according to individual susceptibility.

The temptation in tropical climates is always to drink too much and too frequently. This but increases the perspiration, adds to the discomfort and relieves the thirst only for the moment. Alcoholic drinks should not be taken at all by the unacclimated, since they but add to the store, already too large, of heat-producing materials in the system. Water alone, especially if cold, will always be drunk to excess. Montaldo advises to mix it always with lemon- or orange-juice, or to take it in the form of weak tea or coffee. He recommends from personal experience that it should be taken slightly warmed. The temptation to take too much is not so apt to become irresistible, and besides when warm it seems to assuage the thirst better. Montaldo also advises to begin at once, on arriving in a tropical climate, the formation of the habit of not drinking between meals. He says it is easily acquired by a little force of will.

As to eating, much less is required of course than in a temperate climate, yet there is always the danger from old habits and the appetite that has been acquired by years of plenteous indulgence in a variety of food. Foreigners in the tropics always eat too much, especially too much meat, and this is one of the main factors in their liability to gastro-intestinal, hepatic, and renal disease.

For clothing, light-weight, and light-colored, loosely woven flannel is recommended. It should be covered with some other garment whenever it becomes damp from perspiration to avoid the constant evaporation which abstracts too much heat from the cutaneous surface, disturbs the visceral circulation, and so gives the opportunity for an infective agent that may be present to secure a foothold in the tissues.

With regard to venereal indulgence there is a special word of warning. The old habits of internal-heat production, so necessary for obvious protective purposes in a temperate climate, are retained by the organism during its preliminary period of acclimatization, even though not needed in the tropics. The genital sphere especially bears the brunt of the increased tissue metabolism that this involves, and besides the relaxation incident to the tropics prevents a normal amount of exercise and so discourages the working off of surplus energy by physical means. The result is a greatly heightened unaccustomed *nisus generativus*. Excesses in venery, however, are especially trying to the unacclimated, and yet the character of the women of the tropics is apt to be such that opportunities are not wanting for the satisfaction of passion. It is this matter that forms, according to Montaldo, one of the most frequent sources of unhealthiness on the part of immigrants to tropical countries. Of course a word is added as to the great frequency of venereal disease in these countries owing to promiscuous intercourse.

CORRESPONDENCE.

APPENDICITIS AND TERMINOLOGY.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—I trust to your generosity to allow me to say that I have not been quoted quite corrrectly in the issue of your most excellent journal for April 22d, where you honor me in giving a report of my paper "The Term Appendicitis and Other Unscientific Words in Our Nomenclature," and further, that the object of my remarks has been overlooked in your editorial on the subject. Neither my insignificant self nor even a single much better man can change at will the habit of employing unscientific, incorrect, and sometimes directly *misleading* terms. If the whole profession will adhere to appendicitis, *habeat sibi!* If there are people who insist on "*per orem.*" *habeant!* So much the worse for the profession, so much the worse for those men. I confined myself to positive facts and no more and no less, and I leave it to the profession at large, not to the German Medical Society of the City of New York alone, to judge of the correctness and the value of my positive statements. Allow me here to add that I have already conclusive evidence that my labors are being noticed favorably by many good men, by some of the best men of our profession. It happens sometimes that the contrary of what we say is reported. I have not said that the term "scolicoiditis" might be adopted by our Greek colleges. I stated that this word is the exact translation of our word appendicitis, but that the Greeks employed it rarely. I am not guilty of having coined a new impossibility "nosogeny" as I am quoted with, and I have not said that skolex is the term for appendix. I wonder what my Greek friends would think of me if I had done such awful things! As to one of Dr. Jacobi's remarks, who did me the honor to discuss my paper rather favorably, I gave the exact reasons why it is of importance to distinguish well between nosology and pathology, since these are two essentially different matters.

A. ROSE, M.D.

NEW YORK, April 22, 1899.

ANOTHER BIT OF NASAL SURGERY.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—A strong parallel to your recent excerpt from the *Lancet*, entitled "An Interesting Bit of Nose Surgery," occurred in my practice a few years ago. A boy, aged six years, was looking down through a broken skylight when something suddenly attracted his attention; he turned sidewise and the sharp edge of the glass cut the tip of his nose off. Being summoned to see him, two blocks away, I inquired for the piece, which had dropped into the cellar. The father found it there and brought it;

time at least twenty minutes; size almost as large as a copper cent and about three millimeters in thickness. After aseptic cleansing and placing in correct position I fastened the piece by laying over it a thin film of cotton soaked in aristol collodion. Healing was by primary intention. The piece remained redder than the rest of the nose for a couple of years but looks now almost natural.

A still more striking success I have obtained with a finger. A waiter from a hotel next door came into my office, having chopped off one-third of the last phalanx of the left index-finger with a sharp bread-knife. I sent his companion for the piece, which he found on the table. The larger part of the nail and a piece of bone were in place. After trimming the nail I attached the piece in the same manner as the nose. For further protection a support projecting beyond the finger was fastened to the hand. Perfect union ensued but it required great care to remove the remnants of the nail without destroying the fresh attachment. I should advise in a similar case in future to remove the nail of the piece at once, although a man is naturally shy to handle the piece much, as the growing of the matrix pushes against the piece and has a tendency to force the piece off from the new union. Although I succeeded without stitches I have the feeling that a couple in the finger would have been wiser, as with all superadded hardening material a finger-tip cannot be held so quiet as a tip on the nose, where stitches are certainly undesirable.

M. Hartwig, M.D.

Buffalo, N. Y., April 20, 1899.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

ACETO-SOLUBLE ALBUMIN—CHANGES IN THE RETINAL ARTERIES INDICATIVE OF GENERAL ARTERIAL DISEASE FROM THE OPHTHALMOSCOPIC STANDPOINT—THE NEW ALLENTOWN HOSPITAL—CHANGES IN THE BUREAU OF HEALTH—ELECTION OF THE NORTHAMPTON COUNTY MEDICAL SOCIETY—THE MEDICAL CLUB'S RECEPTION TO DRS. BULL AND COLEY—PERSONAL NOTES—OBITUARY—HEALTH STATISTICS.

Philadelphia, April 25, 1899.

At a meeting of the Pathological Society, held April 13th, Dr. W. M. L. Coplin reported two interesting cases of aceto-soluble albumin in the urine, under the title of "Two Cases of Albuminuria, the Albumin Not Being Recognizable in the Acetic Acid and Boiling Test." In In 1889, Pattein called attention to the occasional presence in the urine of a form of albumin which was precipitated upon boiling in the absence of acetic acid, but which, nevertheless, became resolved upon the addition of acetic acid, even in minute quantities, and if urine containing this form of albumin was rendered ever so faintly acid by the addition of acetic acid, the albumin failed to be precipitated upon boiling. Pattein also reported later that it was possible to convert serum-albumin into aceto-soluble albumin by the addition of certain sodium salts and other means, and believed, therefore, that the serum-albumin enters the glomerulus as such, and is altered in its descent through the tubes. Two of the cases so far reported have been in eclamptic women, the second of whom had true albuminuria as well. A third case was that of a parturient, who had a large amount of true albumin in the urine, though she did not have eclampsia. In this case the aceto-soluble albumin appeared just before labor. Two cases have also been reported as occurring in males which would tend to preclude the idea of an intimate relationship between some condition of pregnancy, and the presence of this particular form of albumin. Dr. Coplin reported two cases of his own, the first of which occurred in a woman suffering from typhoid fever, who was pregnant also for the second time, the first labor having been normal in every particular. The albumin entirely disappeared later, and at no time were casts found in the urine. The second case was that of a child who was suffering from acute follicular tonsillitis. In both of these cases albumin could not be demonstrated by means of the *heat and acetic acid*, *overlying nitric acid*, nor by the *nitric-magnesian* test, but was proved to be present by the ferrocyanid of potassium with acetic-acid test, and by Tanret's reagent, from which Dr. Coplin concludes that the boiling and acetic-acid test, and the overlying nitric-acid test, can not be depended upon in all cases.

At the same meeting Dr. de Schweinitz read a paper "Concerning the Changes in the Retinal Arteries Indicative of General Arterial Disease from the Ophthalmoscopic Standpoint," in which he called attention to the tortuous condition of the arteries, their alternate contraction and dilatation, and the whitish streaks about their walls. Stress was laid also upon the influence of arterial pressure on the venous blood streams where artery and vein cross one another, and the impeded venous circulation. Frequently an ophthalmoscopic manifestation is edema of the retina and retinal hemorrhages consequent upon this condition which has recently been called attention to by Marcus Gunn, and which is of great prognostic value according to Dr. de Schweinitz.

About May 1st the New Allentown Hospital will be formally opened to receive patients, of which it can accommodate about thirty. The necessary funds were largely raised by the Ladies' Auxiliary of Allentown, and the last Legislature appropriated $5000 for its maintenance. The building is of granite and brick, equipped with the latest improvements in sanitary appliances, and the plans call for extensions which are to be made from time to time as need arises and money can be obtained.

The general expectation that there would be a "shake-up" in the Bureau of Health has been fulfilled, and four assistant-medical inspectors have been notified that their services will not be required after the first of next month. The $4800 a year which is thus saved is to be utilized in paying the Chief of the Bureau a yearly salary of $4000, which is the amount provided for under the reorganization. Members of the Board of Inspectors protest against this reduction in their number and say that as the

work now done is all they can well accomplish this reduction will mean more work than can be properly attended to with consequent deterioration in the measures taken for the protection of the city's health.

At the eleventh annual meeting of the Northampton County Medical Society, held at Easton, April 21st, the following officers were elected: President, Dr. Charles McIntyre, Easton; vice-presidents, Drs. J. O. Berlin of Bath, and D. H. Keller of Bangor; recording secretary, Dr. F. H. Erwin, Bethlehem; corresponding secretary, Dr. H. T. Edwards, South Bethlehem; treasurer, Dr. Amos Seip, Easton.

The Medical Club of Philadelphia gave a reception to Drs. William T. Bull and William B. Coley of New York at the Bellevue Hotel on Saturday night. Dr. Anders, the President, introduced the members and addresses were made by Drs. Bull, Coley, Keen, De Forrest Willard, and Rodman. Among those present were Drs. Hare, Musser, Guy Hinsdale, La Place, Burr, Montgomery, Judson Daland, and J. Chalmers Da Costa.

Dr. M. P. Ravenal will address the Associated Health Authorities of Gloucester County at their annual meeting to be held in Woodbury during May.

Major William H. Lambert, for the past several years President of the Department of Charities and Correction, has resigned as a member of the Department much to the regret of all who know him. The resignation, it is stated, was not due to political influence but to pressure of private business.

At the celebration of the Fiftieth Anniversary of the Lycoming County Medical Society, held last week, Drs. W. S. Forbes, H. A. Hare, and Thomas Mays delivered addresses. Dr. Osler of Johns Hopkins was also present and spoke.

Dr. J. William White has been appointed a member of the Board of Visitors to the Military Academy, West Point, for the year 1899.

The annual banquet of the Alumni Association of Jefferson Medical College will be held at the Art Club on May 15th; Dr. Orville Horwitz is Chairman of the Dinner Committee.

By the will of the late Mary Dwyer, $3000 is left to the Sisters of St. Francis for a Dwyer bed in St. Agnes Hospital, and $1000 to St. Mary's Hospital.

The Legislature has increased by $25,000 the appropriation made to the University Hospital, and to Jefferson; the Medico-Chirurgical receives $45,000 additional, which gives it a total of $120,000 as against $75,000 which the two former institutions receive.

Dr. Thomas W. Flanner, a graduate of the University of Pennsylvania, died last week at his home in Philadelphia, aged seventy-nine.

The total number of deaths occurring in Philadelphia during the week, ending April 22d, as reported at the Bureau of Health, was 505, of which number 122 occurred in children under 5 years of age. The total number of new cases of contagious disease was 337, reported as follows: Diphtheria, 53 cases, with 18 deaths: scarlet fever, 42 cases, with 1 death; typhoid fever, 242 cases, with 1 death.

OUR LONDON LETTER.

[From Our Special Correspondent.]

THE CANCER NUMBER OF "THE PRACTITIONER."—RETIREMENT OF DR. SOPHIA JEX-BLAKE—STRUGGLE OF WOMEN DOCTORS—SINGULAR INFLUENZA-LIKE EPIDEMIC AMONG DOGS—"POISON BY POST"—PROPOSED MINISTER OF HEALTH—SANITARY PROGRESS IN THE ANTIPODES.

LONDON, April 17, 1899.

THE prominent topic of the past week. both professional and lay has been the cancer problem, brought into bold relief by the interesting and striking "cancer-number" of *The Practitioner*. This symposium of the views of a number of experts from both sides of the Atlantic, each one treating a phase of the subject, to which he has devoted much thought, if not actually won fame in, is most timely and reflects much credit upon its enterprising organizer and editor, Mr. Malcolm Morris. Its effect upon public opinion and interest has been most marked, and appeals for the adequate endowment of laboratories for cancer research will hereafter not fall upon deaf ears.

The ablest and most impressive paper of the entire group is that by Dr. Roswell Park of Buffalo, on the "Nature and Causation of the Cancer Process," which was published simultaneously in the MEDICAL NEWS, and which has provoked much comment in the press. Dr. Arthur Newsholme discusses the oft-alleged increase of cancer in recent years, reaching the unexpected conclusion, after a very thorough examination of the vital statistics, that it is apparent and not real. The much larger number and proportion of deaths by cancer recorded, he regards as due chiefly to completer reports and greater accuracy of diagnosis. His conclusion contravenes what most of us have accepted almost as an axiom, yet he makes out a very strong case for his view, showing for instance, that the enormous diminution in the number of deaths from "unknown causes" is alone sufficient to account for a large proportion of the increase in cancer, allowing it its due percentage of these.

Dr. Alfred Haviland takes up the geographical distribution and reaffirms the oft-enunciated dictum, that the disease is most prevalent on clay soils, in low swampy districts, and depends largely upon fluctuations in the ground-water. But this, of course, lands him in the difficulty that modern agriculture and drainage have enormously diminished both the ground-water and its fluctuations, while he declares cancer to be increasing, a dilemma which he endeavors to escape from by alleging that drainage has in some mysterious manner increased the liability of river-valleys to floods and thus produce the retention-dampness conducive to cancer. Altogether the paper leaves one with the decided impression that nothing definite can yet be said in regard to the soil-proclivities of cancer.

Plimmer, after a brief review of the parasitic theory of cancer, relates in greater detail his own results, alluded to in my last letter. He found a yeast-organism in 95 per cent. of some 1200 cancers examined by him, and from its cultures succeeded in producing tumors in inoculated guin-

ea-pigs, after many trials. But as these so-called tumors took the form of abundant, translucent tubercles upon the peritoneum, in the liver, spleen and lungs (in fact ordinary yeast-tuberculosis), affected *the connective tissues only*, and proved fatal in from *thirteen to twenty days*, they could hardly be even remotely regarded as carcinoma, except by a pure bacteriologist.

Dr. Sophia Jex-Blake, Dean of the Edinburgh School of Medicine for Women, and one of the founders of the London Woman's Medical College, has just been tendered a farewell reception on the occasion of her retirement to her old home in Sussex. Dr. Blake was first attracted to medicine as a career while on a visit to America thirty-three years ago and studied for two years in Boston under Dr. Lucy Sewall. Then she returned to England, and apparently from sheer love of battle, determined to complete her education and secure a degree, at the same time vindicating the rights of her sex in this regard. Her plucky fight lasted eight years, but succeeded at last in 1876, when Parliament passed an Act formally enabling the colleges to admit women to their examinations. She began her campaign in London, but rebuffed there, moved upon Edinburgh, where, after being admitted on sufferance for four years, the little band of women-students were flatly refused their degree, and after an expensive lawsuit driven to fall back upon London. Here they at last succeeded in establishing the Women's School of Medicine, in 1874, which was formally recognized two years later.

But life had become too easy in London for such a born Alexander and, after only two years of inglorious peace, Dr. Blake returned to the siege of Edinburgh, where, after eight years of delightful war, she succeeded in planting the banner of the still flourishing School of Medicine for Women in the very heart of the citadel. Now, covered with honors and the spoils of victory, she is retiring at the early age of fifty-nine to the home of her girlhood, though one can scarcely help wondering what influence will be found in "Sleepy Sussex" antagonistic enough to make life worth living.

The death is announced of Dr. William Squire at the ripe old age of seventy-four. For some years past, withdrawn from active, professional life, Dr. Squire will be remembered by his admirable "Essays in Preventive Medicine," which many years ago laid the foundations of the science of epidemiology, and is still a classic work of reference. He also wrote the section on diphtheria in Reynold's "System of Medicine," and that upon the exanthemata, in "Quain's Dictionary."

A new and singular epidemic among dogs is reported by Professor Penberthy as extremely prevalent in various parts of England. Its onset is characterized by dulness, stiffness, vomiting, and thirst, quickly followed by severe, pulpy congestion of the mucous membranes of the mouth, going on to even gangrene of the gums and tongue. A similar condition is found post-mortem throughout the entire alimentary canal, and in some cases in the lungs. The disease is extremely fatal, nearly 60 per cent. of the cases ending in death in from six to ten days. Bacteriologic examination reveals no distinctive organism, nor can the disease be communicated to other dogs, even by feeding them upon the viscera and stomach-contents of animals dead of the epidemic. The interesting feature is that Professor Penberthy regards it as analogous to a form of canine influenza.

The rôle of imitation or, in the fashionable terminology of the day, suggestion in crime is a curious one. For months past the papers here have been full of the sensational Cornish case in New York and "Poison by post" has become a familiar head-line. Now London has use for this on its own account, a young girl, Mary Ansdell, inmate of a home for the feeble-minded, having received a few weeks ago a cake by parcel-post, after eating which she fell ill and died with symptoms of irritant poisoning. Three of her little friends who had assisted were also made very sick, but not having eaten an "owner's share" recovered. After careful search the police succeeded in tracing the cake and letter accompanying it to the victim's elder sister, a girl of twenty-two, living in London as a servant. The chief link in the chain of evidence was the purchase by the wretched girl of several packages of a phosphorus-paste, put up as a rat-poison, this element being found in abundance in the stomach of the victim by the well-known toxicologist, Dr. Stevenson, chemist to the Home Office. For a long time motive seemed utterly lacking, but it was at last discovered that the depraved creature had taken out an insurance-policy upon her sister's life and apparently planned her cold-blooded murder for the magnificent reward of $55.00. It is but charitable to hope that the feeble-mindedness will be shown to run all through that family, but the opportunity for getting rid of some of it, permanently, is too good to be let slip.

There is a strong movement on foot for the establishment of a Ministry of Health, with a seat in the Cabinet. The sanitary administration of the country has hitherto been in the hands of the Local Government Board, a body which has done some admirable work, but which is loaded with an immense amount of other business, lacks initiative and enterprise, and that sense of responsibility only to be developed in a department with a single head.

The honorary degree of M.A. has been conferred by the University of Cambridge upon Dr. Sims Woodhead, in view of his recent election to the chair of Pathology.

Things "do move" in Australia. One of the legislatures has just passed a bill directing physicians to report every case of tuberculosis which they are called to attend to the Board of Health, and, marvel of marvels, provoiding a fee of sixty cents for each notification! All milk-cows are to be tested with tuberculin and renumeration paid for those slaughtered, only in case the post-mortem shows the diagnosis to have been mistaken.

Cremation Increasing.—In 1898 there were 179 cremations in Gotha, 105 in Heidelberg, 98 in Hamburg, and 21 in Jena, an increase of 31 over the preceding year. At Woking in England the number of bodies cremated in 1897 was 173; in 1898 it was 240. Four other crematories have been built in England and Scotland in the past five years.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

REMOVAL OF HYDATID CYSTS OF LIVER AND LUNG—INCISION AND DRAINAGE THE BEST OPERATION FOR PANCREATIC CYSTS—AN IMPROVED METHOD OF OPENING THE ANKLE-JOINT—AORTIC ANEURISM CURED BY THE INTRODUCTION OF SILVER WIRE—SUCCESSFUL OPERATIONS ON THE PYLORUS—RADICAL CURE OF INGUINAL HERNIA—FUNCTION OF THE PERICARDIUM—MODERN VIEWS ON GOUT—TUBERCULOSIS IN IRELAND.

AT the Clinical Society of London, March 10th, ROBINSON described the successful treatment of hydatid cysts of the liver and lung of a boy, aged six years. In each situation there was a single cyst, that in the liver holding about a pint, and that of the lung being as large as an orange. The two were removed at separate operations two months apart. In each instance the cyst was incised, its contents evacuated, and its lining membrane peeled out whole. The fibrous sac was not disturbed. The cavities were drained and healed readily. The cyst in the right lung was exposed by resection of a portion of the second rib anteriorly. For ten days afterward there was a high temperature and evidence of localized pneumonia, though there was no connection between the sac and the bronchi, nor any bloody expectoration or cough during or after the operation. The boy made a good recovery and was well when last heard from.

BARKER reported the successful treatment by incision and drainage of a pancreatic cyst holding three or four pints. The cyst made its appearance in a boy, aged fourteen years, after a fall some weeks previous. In a month's time after the operation the wound had entirely closed. Antiseptic drainage and not extirpation seemed to the speaker to be the proper treatment in such cases.

In this respect DORAN agreed with him. An accurate diagnosis is not always possible until the operation has been partly performed, and several surgeons have remarked after an extirpation, that had they known the origin of the cyst, they would not have attempted its removal. Even if a cyst is situated in the most favorable part of the pancreas, namely, in its tail, it may be necessary to tie either or both of the splenic vessels, surely a serious procedure.

LANGTON also advocated incision and drainage. He gave the details of a case in which a pancreatic cyst, also of traumatic origin, contained 9.5 pints of old blood.

LANE reported three cases treated by incision and drainage, in one of which the cyst was opened from the back.

LANE described an improved method of opening the ankle-joint in case of tuberculosis. Previously he divided all the structures around the joint except the internal lateral ligament, the tibialis posticus, and the flexor tendons of the toes. In spite of careful suture the tendons sometimes united imperfectly. Besides the transverse cutaneous incision, he now makes vertical incisions of sufficient length to enable him to expose the several tendons for a considerable distance. In the young infant he found he could expose the interior of the joint by dividing the peroneus tertius alone, as well as the external, anterior, and posterior ligaments, the other tendons being turned out of their sheaths and hooked aside. In older children he also divides the peroneus longus and tertius high up, cutting through muscular and tendinous fibers, securing larger and more vascular areas in accurate apposition, and keeping the sutured portion at a distance from the joint, and so minimizing infection of it. By this means the objections to the former operation were avoided without diminishing its thoroughness.

At the session of March 24th, LANGTON reported a case of aneurism of the abdominal aorta, successfully treated by the introduction of silver wire into the sac. The aneurism was in the epigastric region and was first noticed after the birth of the patient's child. It increased in size until three months later an exploratory laparotomy was performed. A trocar was thrust into the sac, and after its withdrawal five feet of silver wire were passed into it. There was not much hemorrhage. One year later there was a hard mass, much smaller than before operation, the thrill and bruit having disappeared. Six similar cases have been reported, four of the operations proving fatal.

MORISON showed a number of patients upon whom he had operated for pyloric obstruction. Pyloroplasty he had performed nineteen times for benign stricture without a death. In no instance was there a recurrence of the trouble. He began the incision an inch and a quarter above the pylorus and continued it clear through the pylorus. He passed his suture through all the coats of the viscus, suturing the longitudinal wound transversely. Five patients were presented from whom he had removed carcinomatous growths of the pyloric end of the stomach. All were much improved and none as yet showed any sign of recurrence. The periods of time since operation varied from six weeks to eighteen months. He considered the operation safer than gastro-enterostomy, and advocated it for all movable tumors, no matter whether large or small.

At the Medical Society, March 13th, LANGTON read a paper on the radical operation for inguinal hernia. He described four methods of procedure: (1) Reconstruction of the inguinal canal with transplantation of the vas deferens and its vessels to the upper angle of the incision so as to form a new inner ring; (2) operations in which the whole or part of the sac is utilized to form a pad or buffer within, or close to, the inner ring, so that the peritoneal fossa usually met with was converted by the boss into a convex buffer; (3) ligature of the sac close to the inner ring, its excision, and the reconstruction of the inguinal canal; (4) partial removal of the sac, its ligation and torsion, its withdrawal through the conjoined tendon, and the inner pillar of the external abdominal ring, and its retention in this situation by sutures. It was impossible to determine the exact method to be adopted until the parts were exposed and the conditions thoroughly examined, but he preferred and practised, whenever possible, the operation first described, with certain modifications. He used kangaroo tendon as a continuous, rather than an interrupted suture, the coaptation of the canal being

thereby made more complete. Drainage was rarely needed, only when hemorrhage had been profuse or when a cavity was left after a large hernia. In males between ten and fifteen years of age, especially when omentum presented, his practice was to drag down a considerable piece, returning it into the peritoneal cavity after securely ligaturing. Rest and recumbent position for a month is a most important element in the after-treatment. He expressed himself as opposed to operating upon children under six years of age, as they can usually be cured of their trouble by the use of a truss. In speaking of recurrence after operation, he said that the records of the City of London Truss Society showed that in the last six years 242 operated patients were treated for failure of the operation, from which it might be inferred that the total number of failures must be very considerable. In private practice the results were better known and were encouraging, eighty per cent. being successful, at any rate for several years.

March 27th, Barnard spoke of the value of the pericardium to the heart. It has been shown that the heart cannot carry on the circulation unaided. The contractions of the muscles of the legs and abdomen are necessary to force the blood into the right auricle. If these muscles all act at the same time a pint or two of blood might be forced into the heart were it not for the fact that the overdistention of the thin-walled auricle is prevented by the fibrous pericardial sac, just as the outer leather cover of the football prevents the overdistention of the thin rubber ball within it. The pericardium limits the possible diastolic distention of the heart by about one-half. When the pericardium is softened in pericarditis, coughing, or moderate exercise will not only fill the heart with blood, but will also stretch the pericardium, which probably never regains its normal size. The right heart then will always dilate, and its valves will become incompetent even with moderate exertion.

Mouillot read a paper before the Harveian Society, March 15th, on the modern views of gout in relation to treatment. He believed that the proximate cause of the gouty state lay in a defective metabolism of proteids due to a functional disease of the liver or intestinal glands, and that the deposit of sodium biurate was due to deficient elimination by the kidneys owing to a diseased condition, or through their action being inhibited by an impure condition of the blood. In the differentiation of gout from rheumatism stress was laid on the condition of the fingers, and also on the deposit so often found in the conjunctival surface of the lower eyelid. In speaking of the treatment, Mouillot argued from the action and success of colchicum that the objects aimed at should be to diminish the quantity of uric acid formed, and to stimulate the intestinal glands and liver, whilst endeavoring to remove all the uric acid formed through the excretory organs. Colchicum probably acts by its effect on the liver and intestinal glands, which increases the quantity of bile, thus removing, in the form of glycocolic acid, one of the antecedents of uric acid. Colchicum completely meets the indications in acute gout. Chronic gout and goutiness must be treated mainly by diet and periodic visits to watering-places. The main points in diet are to drink fluid freely apart from meals, and to make the meals as little complex as possible. Stimulants should never be taken except at meals on account of their effect on the liver.

Luff urged the importance of avoiding the use of salicylic acid or sodium salicylate in the treatment of gout, since it is not only useless, but in many cases he had found it do positive harm. Many gouty people drink too little. Especially is this the case with female gouty patients, in whom the total amount of daily fluid consumed frequently averages not more than eighteen or twenty ounces. Alkalies and their congeners are useless when administered with the object of dissolving gouty deposits, but he frequently employed alkalies in the treatment of gouty dyspepsia and of gouty affections of the liver.

Armstrong said that, as a general rule, a certain amount of butcher's meat is necessary. In a considerable number of cases on a non-meat diet he had observed that although the actual amount of uric acid formed got less, the rate of excretion diminished to a still greater degree. Beef and mutton certainly stimulate the process of excretion. In nearly one hundred cases of patients dieted exclusively on minced meat and hot water, there was at first an enormous increase in the quantity of uric acid excreted, which, no doubt, the advocates of a non-meat dietary would say was conveyed into the system by the beef; but as the gouty troubles improved, the excretion gradually fell to normal, although the food was unchanged. In giving red meat to the gouty, it is necessary to cut down, as far as possible, the consumption of carbohydrates and of milk, and also to insist upon the drinking of hot water one hour before each meal. Fresh vegetables are of the greatest value, but they should be well cooked. A separate vegetable course at dinner is most useful.

At the Medical Section of the Royal Academy of Medicine in Ireland, February 17th, Grimshaw read a paper on the prevalence of tuberculosis in Ireland. He dealt with a period of three years, 1895 to 1898, during which time phthisis caused 11.7 per cent. of all the deaths in that country. The rate in the cities was notably higher than in the country districts.

McWeeney called attention to the relative infrequency of tuberculosis among cattle in Ireland. The practice of keeping them on grass for six months each year, may be looked upon as the open-air treatment of tuberculosis applied to the bovine race.

Letters said that the most correct test of the tuberculous character of a locality is when the mortality from tabes mesenterica and tuberculous meningitis combined bear a high rate to that from phthisis. This high proportion of juvenile to adult tuberculous mortality in Ireland invariably corresponded with a high degree of urbanization.

For Hyperidrosis of the Feet.—

℞ Dermatol . . . . . ʒ v
Talci . . . . . ℥ ii
Amyli . . . . . ʒ iiss.

M. Sig. Powder feet and inside of stockings.—*Heinz.*

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held April 20, 1899.

THE President, DR. WILLIAM H. THOMSON, in the Chair.

DISCUSSION ON MALARIA.

(Concluded from page 512.)

The first paper of the evening, entitled

MORPHOLOGY OF THE MALARIAL ORGANISM, ILLUSTRATED BY LANTERN-SLIDES,

was read by DR. JAMES EWING. He showed on three stereopticon-slides sketches of red blood-corpuscles containing malarial parasites of the three forms of malaria generally recognized, the tertain, the quartan, and the estivo-autumnal, in the various stages in which they occur in human blood, and described their phases, and discussed their significance in the life history of the parasite, and the clinical picture of the disease.

The achromatic spot that occurs in all forms of the malarial parasite, and which takes a greenish-tinge with hematoxylon, Dr. Ewing considers to be the nucleus of the protozoon, and always referred to it as such. The ring form of the parasite Dr. Ewing's sketches brought out very clearly. Even when the ameboid movements become noticeable, though the ring may be very thin and difficult to see, with care it can always be demonstrated. As to the significance of the ring appearance he considers it not a mere optical delusion due to the presence of an achromatic vesicular nucleus at this point, but an actual ring enclosing a certain amount of hemaglobin of the red blood-corpuscle. The latest and best authorities seem to be drifting toward this opinion.

In certain very severe forms of tertian malaria, almost malignant in type, importations from Cuba and Mexico, that Dr. Ewing has seen here in New York City, he has observed in a number of instances multiple infection of the red blood-corpuscles. A species of conjugation of the parasite seems to take place in these cases since after a certain stage of its life history is reached never more than one parasite can be found in a red blood-cell, the twin parasites being all young forms. He can scarcely help connecting the observation of this presumed conjugation with the severity of the disease in these cases.

The quartan type of malaria is rare in the neighborhood of New York, and all of Dr. Ewing's specimens were procured from a distance. Arkansas and Missouri furnish characteristic examples of this form of malarial parasite. A marked peculiarity of the effect of infection with the quartan parasite is that the red blood-corpuscles do not swell up as inevitably occurs after infection with the tertian parasite but, on the contrary, shrivel up, becoming markedly smaller even within a few hours of invasion, when the parasite is as yet very small and young. In the young forms the quartan parasite cannot be differentiated with certainity from the tertian type. As it grows older, however, the quartan becomes densely pigmented, and the ring is coarser than in the tertian form. There are intermediate forms where it still remains difficult to distinguish them even when the life history is pretty well advanced, but they are comparatively rare.

There are perhaps grouped under the estivo-autumnal type of malarial parasite a plurality of species, but the subject has not yet been definitely settled, and workers generally, as yet, assume but one form. The parasite is at first smaller than either the tertain or quartan, and affects the red blood-cell less, causing it neither to swell nor to shrivel. The signet-ring form of the parasite is very characteristic. The ring portion is geometrically fine and regular, perfectly linear in outline. While the ring of the tertian form can be sketched with a brush, that of the estivo-autumnal parasite requires a fine pen for its reproduction. This parasite seldom contains much pigment, and this makes a striking differential sign.

The rosette form, when it reaches the sporulation stage, is also very characteristic, but it cannot always be found in the peripheral blood, though it can usually be demonstrated in smears from the organs, especially the spleen, post-mortem. Dr. Ewing found it a number of times at Montauk last summer in peripheral blood-specimens from living patients, and also in smears made from the organs at autopsy. In his experience there seem to be almost always eighteen spores to the rosette, though it has usually been stated in the literature of the subject that there were less than this—twelve to fourteen. Occasionally nineteen, and once or twice twenty spores, were counted in specimens procured at Montauk. Finally, Dr. Ewing demonstrated varieties of the, as yet, mysterious malarial forms, the crescentic bodies. He does not agree with those who think that they are sterile, as it were, superannuated forms of the malarial parasite, though they may represent a resting stage. They constitute a valuable sign of the age of the infection because of the absence of hemaglobin that they present. Recently, Russian observers have shown that they contain certain chromatin particles that are evidently nuclear in character so that all evidence of life in them is not lacking.

There is a tendency noticeable now among Italian students of malaria to come back to the old idea of only one form of parasite for malaria which is modified by circumstances into the various forms which are now and have been for so long admitted. It may even be that one may change into another under certain conditions. Certain cases observed last summer, among the soldiers at Montauk, by Dr. Ewing, and followed up since, seem to confirm this idea as to the essential unity of the malarial parasite. In one case, in September, blood-examinations showed characteristic parasites of the estivo-autumnal type; in January the blood-picture had changed, and it was very hard to say whether the parasites were of the estivo-autumal or the tertain type. In March they were frankly of the tertain type. This observation was confirmed by others which were not, however, so complete.

The second paper of the evening,. on

MALARIAL NEPHRITIS

was read by Dr. H. S. THAYER of Johns Hopkins University, Baltimore, Md. He thinks that the frequency of

the occurrence of nephritis after malaria has been underestimated, and agrees with Rem Picci, who discussed the subject very thoroughly in Rome last year, that malarial nephritis is by no means rare. He agrees also with that observer that it may occur as well with mild as with severe malaria, and that its etiology is the elimination by the kidneys of abnormal tissue-products produced by the irritation of the disease, and the toxins of the malarial parasite.

Dr. Thayer inclines to the view that the incidence of nephritis complicating malaria is even more frequent in this country than pointed out by the Roman observer. Forty-four per cent. of all malarial cases treated at Johns Hopkins Hospital, during the last three or four years, were complicated by albuminuria. Considerably more than one-half of all the patients suffering from the estivo-autumnal type of malaria had albumin in their urine. The negro seemed especially liable to suffer from nephritis during an attack of malaria, proportionately more than three times as many negroes as whites suffering from malarial nephritis.

The course of the nephritis was uniformly favorable, especially when treated by quinin. Patients with relapsing malaria, complicated by nephritis, during the first attack were apt to have relapses of their nephritis with the recurrence of the malaria. Dr. Thayer gave the details of some cases in which malaria finally led up to chronic nephritis. In one case, autopsy in a child showed the large, white kidney, while microscopically, there was considerable interstitial change to be seen. In general, nephritis occurs as frequently after malaria as after diphtheria, so that it deserves careful looking for in all cases of the disease.

The nephritis may only manifest itself after convalescence has become well established, and long after the acute symptoms of the disease have subsided, as happens also with other infectious fevers, notably scarlet fever. In general, it may be said that as sharp an eye should be kept for renal involvement after malaria, as after any of the other infections.

The presence of nephritis does not require any modification of the routine treatment of the malaria. There is an impression abroad that quinin is irritating to the kidneys, and should not be used, or but sparingly in these cases. There is no good warrant in the serious literature of malaria, or in the clinical experience of good authorities on malaria for such an opinion. Especially has it been said and thought that the occurrence of bloody urine formed a positive contraindication to the administration of quinin. This is not true, however, and whenever there are acute symptoms of malaria quinin should be used freely, and will be the very best thing for the patient. Much harm is liable to accrue from the prevalence of opinions opposed to this, so that Dr. Thayer considers it advisable to express himself very explicitly and definitely on the subject.

The third paper of the evening, entitled

SOME OF THE LESS COMMON EFFECTS OF MALARIA WITH REMARKS UPON THE TREATMENT OF CHRONIC INFECTION

was read by Dr. Wm. H. Thomson. Though malaria was for so long considered, as the name indicates, an air-borne disease, a true miasm we now know that it is not. It is probable that with the passing of this idea goes all notion of a genuine miasma, a true malaria or bad-air disease being discovered. The change of base with regard to the etiology of the disease is no greater, however, than is the development that has come in our ideas as to peculiar clinical symptoms that may be occasioned by it.

Recently Dr. Thomson has had two cases of coma in his service, one each at Bellevue and at Roosevelt, the cause in each case being undoubtedly malaria. It is evident that the parasite of malaria may take the membranes of the brain as a special habitat and that comatose conditions are oftener due to malaria than is thought. In every case of obscure coma, when other ordinary causes of the condition can be eliminated it would be well to think of a possible malarial origin for the condition. A blood examination will decide the interesting question and the therapeutic test will confirm the diagnosis, for, as Dr. Thomson's cases showed, the coma yields promptly to quinin.

Another unusual and interesting symptom is neuralgia. This may take the form of a periodical headache or of intermitting aches and pains almost anywhere in the body. A specific in controlling these attacks of pain is ergot; a dram of the fluid extract by the mouth or rectum rapidly relieves the pain. Quinin is often ineffectual. Curiously enough, however, when quinin and ergot are given together cinchonism is produced much more quickly than when quinin alone is administered. Dr. Thomson has known 12 grains of quinin to produce pronounced cinchonism, where ergot was administered simultaneously, while before double that amount had been used with but very little effect.

Quinin is not as a rule administered with sufficient method and persistency in ordinary cases of malaria or there would be fewer relapses. If there has been even a single paroxysm of malaria, quinin should be prescribed for six weeks. The dose need not be large but if it be kept up there need be no fear of relapses; subsequent attacks will be due to reinfection not recrudence of the old attack.

A very important desideratum of our knowledge now is to know how long the parasite may live in the human body causing practically no symptoms and yet under special circumstances favoring irresistance give rise to fresh attacks. Professor Smith of Harvard in talking of Texas fever and its analogy with malaria, at the last meeting of the Academy (see Medical News April 22d), said that the parasite of Texas fever had been known to exist in an animal in a latent stage for five years.

As to the incubation period of the disease, light is gradually being thrown on this much mooted point. A very striking case bearing on this has been reported from Switzerland. Seventeen persons from a little Swiss town where there was no malaria and in none of whom any malarial symptoms had ever been noticed, visited Italy. All of them acquired malaria, the incubation periods being from two weeks to four months. Malaria running what formerly was considered a latent course, should not

be permitted to continue its existence. Blood examinations should be made for nine months after the attack and if malarial organisms are found at any time treatment should be renewed.

With regard to treatment in general, personal susceptibility to quinin plays a considerable rôle in the matter. Last summer there came to Roosevelt Hospital some hundred soldiers, who had suffered from malaria from one to three months, despite the fact that they had received and were receiving 15–90 grains of quinin per day. Even cinchonism had been produced and maintained for some time in many of these cases, yet malarial parasites continued to be found in the blood.

Quinin is *the* drug for malaria and even such cases as these do not demonstrate its non-specificity for the disease but adjuvants are necessary and a method of treatment that permits the action of the quinin to be most effective. For this Dr. Thomson has found these directions of great practical service: First, a mercurial laxative should be given before the close of the febrile paroxysm. The relief of hepatic congestion and the purgation of the intestines cause the drug to be absorbed sooner and besides removes any quinin in the intestinal tract. This is an advantage since quinin changes into a non-active form if allowed to remain long in the intestines. Second, the quinin should be given one or two hours before the chill in order to have it in the system during the sporulation stage, *i.e.*, when the malarial parasites are especially sensitive to its action. It is usually advisable, because of its irritating properties, to give it in 3 equal doses, the last one or two hours before the chill. Third, spices have long been known to be antiperiodic themselves and to assist the action of quinin, as the popularity of Warburg's tincture in malarial countries shows. Equal parts of powdered ginger in chronic malaria is often of great help. Ginger will sometimes of itself abort malaria even where quinin has failed. Fourth, another adjuvant often of service is the oldest antiperiodic in use, *viz.*, opium. Last summer in the cases of the soldiers at Roosevelt Hospital, the camphorated tincture in half-ounce doses t. i. d. gave immediate relief in combination with quinin. No relapses occurred after its use. Roberts in India pointed out that it is the alkaloid narcotin of the opium that is antiperiodic and that it is better than quinin in certain cases. He also stated that far from producing sleepiness, it stimulates. Its name should be anarcotin; it is distinctly anticomatose.

DR. THAYER, in discussion, said that he agreed with Dr. Ewing that there was not in the crescentic bodies any direct evidence of a capsule. The crescents seemed to him more important, however, than had been set forth. They were intimately connected with the flagellate bodies, and these recent researches, especially those of MacCallum, had shown to be significant for reproduction, very probably being sexual elements. Crescentic bodies might be sterile for their possessor but they could give rise very probably to malaria in others. As to the possibility of the unity of the malarial parasite, Dr. Ewing's suggestions were extremely interesting. They were confirmed by the fact that malarial recrudescences in the springtime were usually tertian in character.

There did not seem to be enough facts, however, as yet to justify any conclusion in this direction and he asked Dr. Ewing if he had observed the transition of one form into the other. As to long periods of incubation Dr. Thayer would rather think of an infection from other patients than accept months of incubation. Infection was comparatively easy if the mosquito-theory were true and all the work on it had been excellently done by trustworthy workers who had mutually confirmed each other's observations.

In reply to Dr. Thayer's question as to the transitional types between the various forms of malaria, Dr. Ewing said that only in the one case given in his remarks had he been able to observe what he considered actual transition between distinct types of the malarial organism. In other cases, however, there had been enough to make him suspect that transition had taken place.

THERAPEUTIC HINTS.

For Trachoma.—Applications of iodin in glycerin or of oil of white vaselin are recommended by NESNANOFF. For instance:

℞ Iodi pur. . . . . parts 1–3
Ol. vaselini alb. . . . . parts 100
Etheris . . . . . q. s.
M. Sig. External use.

The conjunctiva is dried with absorbent cotton, and the iodin then applied, at first in strength of one-half per cent. in glycerin. After a few treatments a one-per-cent. solution in oil of white vaselin can be used. Occasionally it is found necessary to increase to one and one-half or even three or four per cent. Abnormal secretion is quickly checked, and the affection entirely cured by carrying out the iodin treatment.

For Pain in Bones Due to Syphilis.—

℞ Ext. aconiti . . . . . gr. x
Pulv. glycyrrhizæ . . . . ʒ i
Ext. glycyrrhizæ . . . . q. s.
M. Ft. pil. No. LX. Sig. One pill morning and evening.—*Devergie.*

Lubricant for Instruments or Fingers.—The mixture given below is stated by KRAUS to be an excellent antiseptic lubricant for sounds, or in making vaginal or rectal examinations. It has the consistence of cold cream, but is quite soluble in water. It can easily be sterilized, and causes no irritation to delicate tissues.

℞ Tragacanth . . . . . gr. xl
Glycerini . . . . . ʒ iiss
Aq. carbolici (three per cent.) . ℥ iii.
M. Triturate in the cold. Sig. External use.

For Lichen Urticatus.—

℞ Hydrarg. chlor. corros. . . gr. iii
Chloroformi . . . . *m.* xx
Glycerini . . . . . ʒ ii
Aq. rosæ . . . q. s. ad. ℥ viii.
M. Sig. Lotion.—*Goodhart.*

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ORIGINAL ARTICLES.

ON THE USE OF ANTISTREPTOCOCCIC SERUM IN INFECTIONS BY THE STREPTOCOCCUS.[1]

BY A. T. BRISTOW, M.D.,
OF BROOKLYN, N. Y.

ONE attack of a zymotic disease usually confers protection against the second. When a second attack does exceptionally occur it is not serious and complete immunity is the rule. Clinicians have been aware of this fact for centuries but so far as we know not until the days of inoculation for smallpox was there an attempt made to produce artificial immunity. Subsequently inoculation gave place to the equally certain immunity conferred by vaccination. This was the first instance in which protection was sought from the lower for the higher organism. The distinct difference between this method of producing immunity and the modern serum treatment of disease is that in the older treatment the patient was made to manufacture the source of immunity from his own cells and was therefore subject to all the risks which are attendant on this process. In inoculation for smallpox these, although far less than the disease itself, were by no means insignificant and sometimes people died as a result of the inoculation. Moreover, an inoculated patient was just as deadly an agent of infection as the individual who had contracted the disease in the natural way. Vaccination of course obviates the objectionable features of inoculation and is the ideal method of conferring immunity through the cell processes of the individual himself. Had we such an agent against the other zymotic diseases and the suppurative processes we should have a treatment far superior to that which is furnished us by the serums.

Unfortunately the immunity which is conferred by serum-therapy is brief and we are therefore compelled to wait until the individual is either stricken with the disease or is in immediate attendance on others or is in the midst of an epidemic. It is impracticable to use the inoculation-method which has been in use during a century and a half, because the process of securing immunity by graduated doses would take too long and much risk would be incurred in the process. Therefore we call to our aid the lower animals and make them take all the risks of the process which requires often a year for a good serum and this we use to prevent the disease in those exposed or to heal its actual victims. Incidentally one may remark that it is difficult to see what rational objection can be made to this plan of procedure even by the most rabid of antivivisectionists, for if we are justified in sustaining life at the the expense of the lower creation we are certainly equally justified in prolonging it by protecting ourselves from disease through the action of animal serums. That objection is nevertheless made to this use of animals by these people should be remembered, for if the bill of the Washington society had passed it would have empowered them to put a stop to the production of all antitoxins in the District of Columbia and this power of course would have been sought by other societies of similar scope and purpose. As guardians of the public health our duty in the matter is obvious.

Of all the serums that the laboratories have furnished, that which protects infancy from the ravages of the disease well named "the destroyer" has the most brilliant record. The serum of Haffkine promises to serve a purpose equally important for the peoples of Asia. It is not strange, then, that the attention of investigators in this line of research should have been turned to the problem which must be of the greatest interest to surgeons—the production of a serum which shall be protective or curative against the organisms which are responsible for wound infection. Some work has been done in the direction of prophylaxis against the staphylococcus infections in Italy by Brazzola and Paracandola, but as yet there are no tangible results of use to the surgeon. In the year 1895 there appeared in the "Annals of the Pasteur Institute" an article by Marmorek in which he announced that he had succeeded in producing a serum effective against the organism of erysipelas. Subsequent articles by the same investigator appeared in other journals in which he detailed the results of his work in erysipelas, scarlet fever and other affections in which the streptococcus was the cause either of the disease itself or, as in scarlet fever, of serious complications. Since then many observers all over the world have reported cases in which Marmorek's remedy against this the most dreaded of the pyogenic organisms has been successfully used. Other observers have reported

[1] Read at the Ninety-third Annual Meeting of the Medical Society of the State of New York, held at Albany, January 31 and February 1 and 2, 1899.

negative results in similar cases, so that at present there is much confusion in the evidence submitted for adjudication. On the whole, however, it seems favorable and of sufficient weight to justify us in putting it to the test in suitable cases. It thus becomes the duty of those who have made use of this antitoxin to put on record their experience and conclusions with regard to its usefulness. Accordingly the histories of fourteen patients are here submitted, classified as follows:

Erysipelas, 3; streptococcic inflammations of the hand and forearm following so called poisoned wounds, 7; streptococcic inflammation of the leg and foot, 1; suppuration of the knee-joint, 1; post-operative pneumonia, 1; acute gangrene of the foot with an ascending lymphangitis and phlebitis, 1.

Case I.—My associate in the Long Island College Hospital contracted erysipelas of the face starting from a pimple about the ala nasi of the left side. He had dressed a case of cellulitis of the forearm on the day previous to the onset of the disease in his own person and it is likely that he infected himself by scratching the pimple. His constitutional symptoms were severe from the start although his temperature did not rise above 104° F. at any time. The upper lip became much swollen and the erysipelas rapidly extended in the direction of the forehead. An incision was made into the upper lip through the mucous surface for the purpose of relieving tension, and local applications of ichthyol were made to the affected area. He was able to take but little nourishment and no stimulants by the mouth whatever, on account of extreme irritability of the stomach. The area of redness and infiltration slowly advanced as far as the eyebrows and the general condition was most serious. I then determined to give him the serum of Marmorek, and accordingly administered 15 c.c. of a serum which I procured from Parke, Davis & Co. Here it is proper to state that in all my cases I have made use of the serum manufactured by this house. Following its use in this case the severe constitutional symptoms rapidly disappeared, the area of redness ceased to advance, and the threatening nature of the disease became mild. A small collection of pus was subsequently evacuated in the region of the nasal fold. I regret to say that I made no further injections in this case as the graver conditions had subsided which caused me to make use of an untried remedy. The patient had a subsequent metastasis in the pectoral region and a tedious convalescence. Had I used the serum freely I believe this might have been avoided. This was in the summer of 1897. But few reports had then been published concerning this treatment, therefore I did not feel justified in using it as boldly as in subsequent cases.

The other cases of erysipelas were treated in December of 1898.

Case II. occurred as the result of an infection starting from a small granulation in a healed stump after amputation at the middle third of the arm. This patient was treated for two days before I saw her. During the first twenty-four hours the affected area was kept wrapped in gauze wrung out of a three-per cent. solution of carbolic acid. The day following applications of a 25-per-cent. ointment of ichthyol and vaselin were substituted. On the third day I saw her. The erysipelas had then extended to the top of the shoulder and her temperature was 105.5° F. I immediately sent for the serum and injected 10 c.c. that night. Her temperature fell about eight hours after this injection and the tenderness and redness of the affected area almost disappeared. As an area of redness still persisted, together with some temperature, forty-eight hours afterward, I gave a second injection, which seemed to effect a cure.

Case III.—About the same time that I was treating the last patient I was informed that there was in the emigrant ward a bad case of erysipelas following vaccination The surgeon in charge, Dr. Tappan of the United States Marine Hospital Service, consented to use the serum as the patient had been for four days on other treatment. The arm had been soaked in hot bichlorid of-mercury solution, 1 to 5000, every three hours. The area of redness was extending both up and down the arm. The patient's temperature was 104° F. and she suffered a good deal of pain. The area of redness was rapidly spreading and blebs were appearing all over the arm. Ten c.c. of Parke, Davis & Co.'s antistreptococcus serum was injected at 4.25 P.M. At 5 P.M. her temperature was 104° F., at 9 P.M. 100.4°, and at midnight, 103.6° F. On January 1st, her temperature at 9 A.M. was 101.8° F. Ten c.c. of serum was injected at 10.45. Her temperature at 3 P.M. was 103 6° F. On January 2d at noon, an additional 10 c.c. of serum was injected and the patient's temperature was normal at six o'clock. Her evening temperature rose a little, but then fell, and continued normal.

I have seven cases of virulent infection to report following the infliction of trivial wounds.

Case IV.—From this patient I believe my associate received his infection. The man was an Italian picture-frame maker who had punctured the base of his thumb a few days before with a wire nail clean from the package. Four days afterward I saw him in consultation. The entire hand and forearm was then much swollen. I made free incisions and evacuated a moderate amount of pus. There was an area of redness extending above the area of actual infiltration, and this I scarified. A day or two later I was called in again and found that the suppurative process had extended further up the arm. I had him removed to the hospital and found another collection of pus, which I evacuated. By this time the tissues above the elbow were threatened as the redness had extended a third of the way to the shoulder. I sent for a bottle of the serum, which at that time was put up in vials of 30 c.c. and not, as at present, in packages of three vials of 10 c.c. each. I injected the entire quantity and was gratified by seeing the advance of the process stop. I did not give him

more serum. Much sloughing occurred as a result of the suppurative process in the arm and the patient's convalescence was retarded by a septic pneumonia. He ultimately recovered.

This was the first case in which I used the serum, my associate's case being the second. As I have before stated, I was somewhat timid in the use of a new and untried remedy, and I regret that I did not make freer use of it in both instances. Had I done so my present belief is that I might have saved both patients' subsequent complications.

CASE V.—The second case of streptococcic inflammation in which I tried the serum was that of a man, aged nineteen years, who had his hand drawn between the smaller rollers of a printing-press. No bones were broken, but the soft parts were badly squeezed. There was a large hematoma on the back of the hand, and two very slight lacerated wounds on the palmar surface of the wrist just internal to the lower end of the radius. I evacuated the hematoma, and carefully cleansed the two little wounds with green soap and water, and applied a bichlorid-of-mercury compress. He rapidly developed a virulent infection of the palmar surface of the hand and lower forearm, which was promptly incised, the incision running from the base of the middle finger upward to a little below the middle of the forearm, and a small quantity of pus was freed. The entire arm and hand was then put in a 1 to 100,000 bath of sublimate, which was kept continuously at 102° F. His temperature in a few hours reached 106.5° F., when recourse was had to the serum. He was given 10 c.c. of Parke, Davis & Co.'s serum at four-hour intervals until he had received 60 c.c. in all. At the time I made the first injection an attempt to save the arm seemed almost hopeless, but the boy was but nineteen years old, he was an artisan, and I determined to take great risks before subjecting him to the loss of his right arm. The result justified the risk taken, for he had no further extension of the infection, and although subsequently his temperature went up in the evening to 103° F. for several days, and once to 104° F., still the general direction of the temperature curve was downward, and the case terminated in recovery without the loss of a single tendon, and the young man now has a most useful hand.

CASE VI.—An engineer inflicted a trivial wound at the base of the thumb with a belt hook, it being almost the precise location of the wound reported in Case IV. I saw him in consultation four days afterward. The hand was then very much swollen, his temperature was 102° F., and his pulse 100. An incision under anesthesia evacuated a lot of bad-smelling pus. Mindful of the course of Case I., in which, in spite of a free incision, the infection traveled rapidly up the arm, I sent for the serum and injected 10 c.c. at once. The next day the local conditions were much better, his temperature was 100° F., and pulse 90, and evidently the infection had not extended either into the palmar bursa or up the sheath of the flexor longus pollicis. However, I gave a second injection of 10 c.c., and within forty-eight hours thereafter had nothing but the abscess cavity to deal with, which rapidly healed by granulation. Another incision was required to obtain free drainage, but the infection was confined to the original area involved when the serum was first administered.

CASE VII.—A man came under my care at the County Hospital who had been kicked on the shin by a horse a day or two before. The bone was not broken, but a lacerated wound was inflicted which was the seat of a rapid infection, so that when I saw him it was necessary to make an incision which exposed the whole length of the tibialis anticus tendon down as far as the mediotarsal joint. Several counter incisions were also made to secure thorough drainage. Continuous irrigation by warm bichlorid solution, 1 to 100,000, was maintained for three days. This was then changed to irrigation by hot saline solution. The fifth day after the long incision was made I injected 10 c.c. of the serum, whereupon his temperature dropped to 100° F., and maintained a distinctly lower point than before. In forty-eight hours he received another injection of the serum. His temperature then dropped continuously, until in twenty-four hours it had reached 99° F. I did not see the patient after that for two days, but then finding that his temperature, in spite of the drainage, had reached 103.8° F., ordered the serum given again. This last dose was followed by a decline in the temperature, but a careful examination disclosed the fact that the ankle-joint had become infected. I believe that this infection existed at the time of the first incision and was overlooked, and it was the fact that the temperature still continued to rise in spite of the serum that finally induced me to open the joint, which I found purulent. Subsequent to this the administration of the serum seemed to have a favorable effect on the man's general condition besides the fall in temperature which invariably followed its use, and there was no further infection of the cellular planes of the leg.

CASE VIII.—This case I am permitted to report by the courtesy of my colleague, Dr. Delatour, in whose service at the Norwegian Hospital it occurred. A fireman, twenty-five years of age, three months before suffered an amputation of the terminal phalanges of the middle, ring, and little finger. These had healed with the exception of a small granulation on the ring finger. He was intoxicated Saturday and Sunday nights. Monday morning his hand pained him, and he saw red streaks extending up as far as the elbow. Next morning he was removed to the hospital. The hand was then greatly swollen. There was a gangrenous area on the tip of the index-finger in which was found a splinter of wood, evidently the point of infection. Red streaks extended up the arm to the axilla. Free incisions were made on the dorsum and palm of the hand, which were followed by free hemorrhage but no pus. The hand was put up in carbolic solution, and

an injection of 10 c.c. of serum given at 7 P.M. Temperature, 105.5° F. at 8 P.M. At 5 o'clock next morning his temperature had fallen to 100.5° F. Afterward two elevations, one to 102.3°, and a second to 100.8° F. occurred, but his temperature then fell to normal and the patient was convalescent.

CASE IX.—For permission to use this report I am also indebted to Dr. Delatour. The patient was a fireman on a steamer. His hands had numerous small abrasions on them and were very dirty. He first noticed pain and swelling over the supracondyloid gland of the left arm, which gradually increased until distinct lumps were formed which were hard, red, and tender. Next day he had headache, fever, and chills On January 1st his temperature was 106.5° F., and pulse 130. Incisions three inches long were made over the reddened area reaching to the bone. The supracondyloid gland was necrotic and contained foul pus. It was curetted and packed with iodoform gauze at 11 A.M. At 5 P.M. 10 c.c. of serum was injected. At midnight of January 2d his temperature had fallen to normal. Until January 8th there was an evening rise of temperature, but after this it remained normal, and the patient was convalescent without further involvement of the arm.

CASE X.—There came into my service at the County Hospital on January 29, 1898, a woman with a diffuse cellulitis of the arm without suppuration which had apparently started from a needle puncture on the dorsum of the middle finger. At six o'clock in the evening her temperature was 101° F., and she was in much pain. She was given an injection of 10 c.c. of serum at that time. The following morning her temperature had fallen to 99° F., the pain was much diminished, and the condition of the arm was much improved. She received another injection of 10 c.c., and at night her temperature was reported to me as being normal. The temperature in this case remained about normal for two weeks, when it suddenly shot up again, and an incision became necessary; a small quantity of pus was evacuated.

CASE XI.—This was a case of suppurative inflammation of the knee-joint in which free drainage did not control the symptoms of sepsis, and in which the patient was too weak to submit to amputation. But one injection of the serum was given, wholly without effect, and as the man was in extremis I did not renew the dose. There were no unfavorable effects produced by the serum.

CASE XII.—This was a patient upon whom I had performed a Kocher operation for excision of the tongue, together with the removal of a glandular infection in the submaxillary triangle. A preliminary tracheotomy was performed. The patient did perfectly well until the sixth day, when he developed pnuemonia. In the hope that it might be a streptococcus infection I gave him during twenty-four hours 30 c.c. of serum, but wholly without effect. No unfavorable results apparently followed the use of the serum, but consolidation of the entire left lung rapidly occurred and the patient succumbed.

CASE XIII.—In the case of this patient I had performed a Heinecke-Mikulicz pyloroplasty for contraction following ulcer. For four days he did well, the abdominal conditions being perfect. Then he developed a left-sided pneumonia. I gave him 10 c.c. of the serum without effect, and as there was absolutely no reason to suppose that the infection was streptococcic I did not give more, and one week from the day of operation he died of the intercurrent affection.

CASE XIV.—On January 26, 1898, I saw in consultation a physician who, a few days before, had cut a corn on his right foot. Acute inflammation had developed, and the entire foot become gangrenous. I removed him to the hospital. His temperature was 103.2° F., pulse 130. There were red streaks extending up the leg and the superficial veins were very tender. That night I gave him 10 c.c. of the serum. In the morning the tenderness of the veins had disappeared, and his temperature had fallen to 100° F., and his pulse to 110. During the day he received 20 c.c. more of the serum, and the following afternoon, January 28th, it being evident that it was hopeless to attempt to save the foot I amputated at the point of election. In the evening of the same day he received 10 c.c. of serum, and on the 30th the primary dressing was removed and the wound found to be uninfected. An examination of the urine, however, showed sugar in abundance, and the patient subsequently died from diabetes.

The conclusions which I have drawn from these fourteen cases and a critical examination of the literature of the subject, are as follows: Cases of cutaneous, or so-called idiopathic, erysipelas may be quickly terminated by the early use of antistreptococcic serum, the initial dose being from 10 to 20 c.c., according to the severity of the case, followed by additional doses if necessary. Rarely more than two or three injections will be required. With regard to the cases of phlegmonous inflammation, the use of the serum has seemed to prevent the extension of the infection beyond the parts first attacked, but has had little if any effect on the sepsis produced by the retained pus. In other words, the same necessity exists whether the serum be used or not to secure prompt drainage and the evacuation of the products of inflammation. This agrees with the experience of Marmorek himself, who in reporting ten cases of phlegmonous inflammation[1] states that if the serum is used before the appearance of suppuration this does not occur. If foci exist, when evacuated rapid recovery ensues without extension of the inflammation. Post-operative pneumonia, unless of streptococcic origin, cannot be expected to improve under serum-therapy until we are provided with a mixed serum which shall be protective both against the streptococcus and the pneumococcus.

[1] *Annals de l'Inst. Pasteur*, No. vii, p. 593, 1895.

A complete summary of the literature on the subject shows that the serum has been used in 476 cases of erysipelas, 456 of which were reported by Marmorek himself, leaving 66 reports by other observers. Marmorek states that the average mortality of the diseases in the erysipelas wards of the Paris hospitals is 5 per cent., whereas, in a series of 306 cases, excluding 3 patients who died from causes unconnected with the erysipelas, the mortality when the serum was used fell to $\frac{9.7}{100}$ of 1 per cent.; also, that of the 306 cases, 145 were mild and 165 serious. The serious cases furnished the two deaths, a rate of but 1.27 per cent. in 165 cases of grave erysipelas. All the patients whose cases have been reported by other observers, including my own, recovered. Among these was a case occurring in an infant aged three weeks (Charrin and Rogers); another in an infant aged six weeks (Ganchex); one in a baby aged three weeks (Steele); and one in a child aged four weeks (Poliewkto). The average dose in the case of infants seems to have been about 5 c.c. My own experience with the serum corroborates the statement made by Marmorek, that for an hour or two following the injection the patient's temperature rises, but that then it commences to fall and reaches its minimum in from eight to ten hours thereafter. All my patients seemed to be promptly influenced by the serum, and in my opinion it promises to cut short the disease in most of the cases in which there is naturally a low mortality, while in some gravely ill cases, occurring in the very young or very old or in persons otherwise debilitated, the patients may be saved by this remedy, who under other treatment would succumb.

I have collected records of 275 cases of scarlet fever in which the serum has been used with somewhat varying success, the average mortality being in the neighborhood of 12 per cent. Marmorek, in reporting a series of 95 cases, expressly says that the serum does not at all influence the course of the disease, which depends on the scarlatinal poison, whatever this may be, but only affects those complications due to streptococcus infection, such as the sore throat, the glandular swellings, nephritis, and otitis media. With regard to these complications, themselves often the sole cause of death, Marmorek makes the following statements: In 19 cases of scarlatinal bubo in which the serum was used not one suppurated; albumin disappeared from the urine after one or two injections, and in four cases of suppuration from otitis media this promptly ceased after the use of the serum. The dose given ranged from 10 to 30 c.c. in ordinary cases, in grave cases from 40 to 90 c.c.

Baginsky, in his series of 48 cases, makes a similar though more guarded report. Low reports the case of a child said to be dying from scarlatina with acute hemorrhagic septicemia and otitis media which improved at once on the administration of the serum, recovery taking place after the use of 263 c.c. On the other hand, Josias reports a series of 95 cases and states that the serum apparently was without effect, the mortality not being appreciably decreased. Other writers have had a somewhat similar experience. In the cases imperfectly reported by Fischer it does not appear that the serum was used for the streptococcus infection, but rather in a general way, and without avail. From the evidence at hand, weighing the reports of the different observers, it seems that benefit may be expected when the serum is used as Marmorek directs for the complications due to the streptococcus. The scarlatinal fever itself, however, will not be influenced.

The puerperal cases merit more discussion than the limits of this paper permit. The reports which the writer has collected include 201 cases, with a mortality of thirty-three per cent. This is not encouraging and the opinions are conflicting. In the larger series of cases, such as that of Bar and Tissier, the mortality is much increased by including cases of patients already in extremis when the remedy was used. The same is true of the Philadelphia cases reported by Baldy, Hirst, Noble, and others, in which the serum was not used until the tenth or twelfth day of the disease. The dosage seems to have been small considering the formidable nature of the infection and the extent of the tissues involved. Thus a number of cases of puerperal fever are reported in which but one or two doses of 5 c.c. of serum were given, and in a series reported by Bar and Tissier, in fourteen of which the dosage was stated, the average total quantity administered was but 86.4 c.c., the average daily dose being 17.5 c.c.

As is well known to bacteriologists the protective power of this serum is low at present and varies considerably, some specimens being fourteen times the potency of others, according to Marmorek's own statement. It seems idle, therefore, to expect results from so timid a use of a relatively feeble serum. If good is to be expected from the use of the serum in this class of cases it must be used in far larger doses than hitherto. Quantities of less than 60 c.c. a day will not as a rule avail much, and much greater daily quantities may be necessary. Moreover, it must be used early in the disease before multiple abscesses have formed in the uterine walls and septic thrombi have collected in the vessels of the pelvic structures. It has been noted in commenting on the use of this serum in the phlegmonous cases that while it seemed to limit the range of infection, or prevent suppuration

where this had not already occurred, that after pus had actually formed drainage was still absolutely essential to the recovery of the patient. The same rule will evidently apply to the uterine cases. This is probably the chief reason why the results of the serum in the puerperal cases have been so discouraging. The serum has been used late, after septic foci have become established and drainage has become a necessity. This, however, is most difficult to secure without the shock of a hysterectomy, in itself sometimes sufficient to carry off the patient. The early and free use of the serum will, it is to be hoped, give better results.

What is the proper dose of the serum? This is a practical question and at present it can only be answered by saying that too much rather than too little must be given because the serum has not as yet been standardized. An average dose is 10 c.c. Twenty c. c. will often be required and daily quantities of 60 to 100 c. c. may be needed. It is possible that the varying experiences of different observers has been due to the use of serums of different degrees of strength. It is not possible to give a definite dosage until the manufacturers succeed in standardizing their products, something which I am informed they hope to do at no far distant date. Until this has been accomplished the experiences of different observers must be of quite limited value.

In connection with the question of dosage a second most practical query will suggest itself as to the possible dangers incurred in introducing large quantities of foreign serum into the circulation. Aside from the occasional appearance of erythemata and urticaria the writer does not believe that any serious risks are to be apprehended. In a series of reports of more than 1000 cases collected by the writer the only instances in which the serum was charged with ill effects were in four or five puerperal cases. The unfavorable symptoms were classified as follows: Sudden high temperature; collapse; uncontrollable vomiting. If these symptoms were the result of the serum we should expect to hear of their occurrence in some of the 800 remaining cases of the 1000. On the contrary there is no record of such symptoms except in the puerperal cases, notwithstanding that much larger doses were given to children, particularly, one child receiving 263 c.c. and another 90 c.c. Now it is a fact that these very symptoms (sudden high temperature, obstinate vomiting, collapse) are all features in the pathologic history of abdominal sepsis. It does not, therefore, seem good reasoning to attribute these symptoms, evidently coincidences, to the use of the serum when it cannot be shown from the evidence at hand that they occurred in any other of the 1000 patients, but as a matter of fact occurred in those instances alone in which they were to have been expected apart from the use of the serum.

The serum has been used in cases of so-called malignant endocarditis with success, and in the bronchopneumonia of children (forty-five cases, Marmorek) without a single death. This affection, Marmorek states, is almost always of streptococcic origin. Considering the usual mortality of the disease in children this record is noteworthy.

UNUSUAL LOCALIZATIONS OF TUBERCULOSIS.

BY ALDRED SCOTT WARTHIN, M.D.,
OF ANN ARBOR, MICH.;
INSTRUCTOR IN PATHOLOGY IN THE UNIVERSITY OF MICHIGAN.

THE following rare localizations of tuberculosis are selected from the records of twelve hundred examinations made by me during the last four years in my capacity as examining pathologist to the University Hospital. These examinations were made for the purpose of diagnosis, and the material was obtained chiefly from the surgical clinic of Dr. Nancrede and the gynecologic clinic of Dr. Martin, though much of it has been sent to this laboratory by physicians residing throughout the State of Michigan. The majority of these cases are very rare, a few, I believe, being noted for the first time. The diagnosis was based both upon the structure and the presence of tubercle bacilli.

Sarcoma and Tuberculosis.—The subject presented a clinical history of a wart in the skin of the forearm. In the subcutaneous tissue beneath the wart a large tumor mass developed with great rapidity. Ulceration of the wart followed. The arm was amputated. The microscopic examination of sections of the tumor showed it to be a large spindle-cell sarcoma. The ulcerating wart gave the microscopic picture of caseating tubercles of the skin. The tuberculous tissue extended into the tumor tissue, so that in some areas there was an appositional growth of the two processes. At the border line between the sarcoma cells and the tuberculous tissue there were numerous giant-cells of very large size. A few caseating giant-cells could be found surrounded by the sarcoma cells. In my opinion the two processes were separate and the combination was purely accidental. Either the wart was tuberculous from the beginning or became infected after the sarcoma began to develop. The study of the sections does not show any evidence of any intimate relation between the two processes.

Carcinoma and Tuberculosis.—In two cases of tumor of the mammary gland a combination of tuberculosis and carcinoma was found, the axillary

glands in one case showing the same combination. A full report of these cases will shortly be published. It is sufficient to say here that in one case the tuberculous process seems to be the primary affection and the carcinoma secondary; in the other the tuberculosis is either a coincident or secondary process.

Primary Tuberculosis of the Mamma.—The tissue removed in one case of enlarged and suppurating mamma was proved to be tuberculous. This case, with the two mentioned above and the one reported in my table of fifty autopsies on tuberculous subjects,[1] adds four cases to the literature of tuberculosis of the mammary gland.

Primary Tuberculosis of the Nose.—A hard fibrous polyp was removed from the left side of the nasal septum. It was about the size of a large cherry. It had been diagnosed clinically as a fibroid polyp. Examination showed the mass to be made up of reticulated tubercles, showing many giant-cells and beginning caseation, and containing tubercle bacilli.

Primary Tuberculosis of Lobe of Ear.—A tuberculous mass was removed from the right ear-lobe around the point of perforation for the wearing of an ear-ring. The exact manner of infection could not be ascertained. Similar cases have been reported.

Primary Tuberculous Ulcer of Heel.—This case is mentioned only because of the unusual site of tuberculous infection of the skin.

Primary Multiple Tubercles of Brain.—The patient was a young woman in good health and of good family history. She suddenly became insane and died within a short time after removal to an asylum. A clinical diagnosis of brain tumor had been made. The brain was sent to my laboratory for examination. Two tubercles the size of a hen's egg were found in the left lateral ventricle, a similar one in the right ventricle, one in the right half of the cerebellum, and a number of diffuse tubercles scattered through the cerebral cortex. No other tuberculous lesions were found in the body.

Tuberculosis of Graafian Follicle.—In the MEDICAL NEWS for September 19, 1896, I reported a case of ectopic gestation with tuberculosis of tubes, placenta, and fetus. At the time of report the ovaries had not been completely examined though tubercles had been found on the surface of both organs. On further study of the ovaries sections were obtained of an enlarged Graafian follicle, into which a pedicled tubercle was growing. The pedicle was continuous with a tuberculous nodule situated in the ovarian stroma beneath the epithelium of the follicle. Other small tubercles were found in the stroma of the organ.

[1] MEDICAL NEWS, April 15, 1899.

Tuberculosis of the Placenta.—While working as assistant in the Stadt-Krankenhaus in Dresden last summer I made systematic examinations of a large number of fresh placentas. In one I found scattered miliary tubercles in the chorionic villi. The history of the mother and child could not be obtained as it could not be determined to which one of a number of patients this particular placenta belonged. The case is, however, important, as it adds another instance of the occurrence of this rare and very important condition.

Primary Tuberculosis of the Fallopian Tube.—Twenty per cent. of all the tubes examined were tuberculous. This condition can certainly no longer be called rare; the more frequently careful examinations are made of diseased tubes the more common is its occurrence found to be. In the majority of the cases there were numerous miliary tubercles in the plications of the mucosa; in one case the lumen of the tube was filled with a cheesy mass, the mucosa having entirely disappeared, and the tuberculous process extended into the wall of the tube. In several cases the tubercles were very scarce and were scattered throughout both the mucosa and the muscular coat of the tube. Tubercles were found in the peritoneum in every case, usually about the fimbriæ of the tube, but in two cases a general tuberculosis of the peritoneum was present. The process was always farther advanced in the tubes than in the peritoneum. None of the subjects had tuberculosis in other organs.

Tuberculosis of Artificial Anus.—This very interesting case is from the surgical clinic of Dr. Nancrede. The history very briefly is as follows:

Mr. P., a farmer, aged sixty-seven years, gave a negative family history. His health had been good until fifteen years ago, when he acquired a double inguinal hernia, but this had given him no trouble until shortly before the commencement of the present condition, when there was descent on both sides. Reduction was easily accomplished, but shortly afterward constipation and severe abdominal pain set in very suddenly. In a short time he became very ill; he had severe headache, vomiting, and severe pain in the lower part of the abdomen. Slight movements of the bowels were obtained at rare intervals during the next three weeks, and then he became very much worse. Fecal vomiting began and the patient became so weak that he could not talk. Operation, however, was deferred for a week, when his condition became so alarming that consent to operation was finally given. Colotomy was performed and an artificial anus was formed. Immediate relief was obtained; the wound healed well and in a month the patient was able to walk and to ride about his farm. Three months after this he began to have normal passages by the rectum. All symptoms had disappeared, and the patient at this time entered

the University Hospital for resection of the colon and closure of the artificial anus This was done by Dr. Nancrede. The wound, to all appearances, healed rapidly, and the patient was just on the point of leaving the hospital when the scar began to ulcerate. In a short time this had healed but only to again break down. This alternate ulceration and healing continued for some time, when the patient considered himself so nearly cured that he left the hospital. Communication was had with him at rare intervals for a year and a half, when he died. During this time he remained fairly well, but occasionally passed blood and pus with his stools, and the old scar continued to discharge at intervals. Death was said to have been caused by "gangrene," but I have been unable to obtain any satisfactory information regarding his final condition and the hopes of a post-mortem which we had entertained were not fulfilled.

The artificial anus with the portion of intestine and skin removed was sent to my laboratory, not so much for the purpose of diagnosis as for the interesting teaching sections that it might afford. When these sections were prepared an unexpected condition was revealed. There had been perfect union between the intestine and the skin. The intestinal muscularis and the dermis were intimately united, and there was but a very small amount of scar-tissue present. The squamous epithelium of the skin had advanced for some distance into the lumen of the intestine over the muscularis, and then passed abruptly into the glandular mucosa of the colon.

Throughout the submucosa, the muscularis, and the dermis there were numerous miliary tubercles, the majority having caseating centers, and containing numerous giant-cells. In these tubercle bacilli were found in scanty number. The tubercles were largest and most numerous in the site of the scar at the point of union of the dermis and intestine. There was no inflammatory process surrounding the tubercles. All were subepithelial with the exception of one small ulcerating tubercle in the mucosa of the colon. All of the tubercles exhibited about the same degree of development except those at the site of the wound, where they were larger and showed a greater amount of caseation.

The material was not examined until several weeks after the operation, so that the patient had left the hospital when the diagnosis of tuberculosis was made. The question immediately arose as to the source of the tuberculous infection of the artificial anus. Had it been from without, a primary wound infection, or had it been a secondary infection of the wound from bacilli contained in the stools? Had the patient a primary intestinal tuberculosis, and were all of his symptoms referable to this condition? The latter seemed most probable, and it was hoped that we should be able to prove it. Efforts were made to induce the patient to return for further examination, but he showed more satisfaction in the results of the operation than interest in the diagnosis. Efforts to obtain the blood and pus passed in the stools for bacteriologic examination were also futile; and still more unfortunate was our inability to obtain a post-mortem examination.

On summing up the case it seems very probable that the original obstruction was due to a primary tuberculosis of the intestine leading to stenosis of the colon, and that the artificial anus became infected from bacilli in the feces. That the process continued in the skin and intestine is shown by the ulceration of the scar and the presence of blood and pus in the stools. I regret that I am unable to settle the question positively. The case is, nevertheless, an extremely interesting one, being, I believe, the first of the kind reported.

ECLAMPSIA FROM THE SURGICAL STANDPOINT.[1]

By GEORGE L. BRODHEAD, M.D.,
OF NEW YORK.

In the wide field of subjects of interest alike to obstetricians and general practitioners it would be difficult to select one of as great importance and one the discussion of which would prove so profitable as that of puerperal eclampsia. From time immemorial the greatest diversity of opinion has existed with regard to the medical as well as the surgical treatment of a malady which is at best fraught with the gravest dangers which can come to the pregnant woman. Theories propounded from time to time as to the etiology of the disease have led to the adoption of as many lines of treatment, but at the present day we are still in ignorance of the precise cause operating in these cases and therefore do not possess a specific, thoroughly scientific method of procedure. To be sure the majority of writers of the present day are inclined to the theory that the essential cause of the convulsions is a toxemia produced in all probability by a number of different poisons, associated usually with renal insufficiency and albuminuria. That the nervous temperament of the woman must be taken into consideration is proved to our minds by the frequency with which the convulsions appear in primiparæ, in whom the mental strain is certainly greater for obvious reasons and in whom the nervous centers are much more stimulated reflexly by impulses coming from the genital tract. In the consideration of the subject my province will be limited to the surgical or obstetrical treatment. For the sake of convenience let us consider (1) eclampsia occurring before labor, and (2) eclampsia during labor, the latter being subdivided so that each division will include cases in the corresponding stage of labor.

1. *Treatment of Cases of Eclampsia Occurring*

[1] Read before the Society of the Alumni of the Sloane Maternity Hospital.

During Pregnancy but Prior to the Onset of Labor.—It is perhaps in the consideration of this particular group of cases that the widest variations of opinion have been held, not only as to whether labor should be induced, but more particularly as to the manner in which the uterus should be emptied, provided this has been deemed advisable. The question is often asked, "Is it necessary in every case of eclampsia to terminate pregnancy as soon as possible?" Can we not follow the advice of Gooch, "Take care of the convulsions and let the uterus take care of itself"? There have been distinguished advocates of the doctrine of non-interference and among these stands to-day Charpentier, who claims to be in accord with the great majority of French obstetricians. At the International Congress of 1896, held at Geneva, he said: "I believe and am convinced not only that the induction of labor is useless, but that to have recourse to *accouchement forcé* is to expose ourselves to the greatest mortification, and far from being the means *par excellence* for the cure of eclampsia, should be abolished by obstetrical practitioners." His reasons among others are (1) that the evacuation of the uterus does not cause the convulsions to cease at once; (2) that not only do attacks often continue in spite of delivery, but in some cases they appear for the first time post-partum; (3) induction requires time to be accomplished with safety to the mother, and this surpasses the duration of the malady; (4) any irritation suffices often to bring on a convulsion; (5) it is often the interruption of pregnancy by fetal death and not the actual delivery which causes the cessation of attacks; (6) all operative interference aggravates the prognosis in labor and the effects are much worse in eclampsia; (7) *accouchement forcé* is admitted to be a serious operation by practically all authorities. Charpentier also takes exception to the statement of Dührssen that "the greater the number of convulsions, the more grave the prognosis," by declaring that "it is not the number of attacks but the way in which they act on the economy."

Taking up these reasons very briefly, the weight of authority seems to be that while convulsions continue oftentimes after delivery, much more frequently they cease altogether or are much less severe, and that, therefore, the best plan is to empty the uterus. Again, the delivery can as a rule be completed in a moderate length of time under chloroform (hence with no irritation), and as a rule without serious injury. While fetal death often occurs and may terminate the attacks, the woman is still in a grave condition and should be entitled to the additional element of safety which the evacuation of the uterus will give. That interference must be accomplished in a most careful and painstaking manner, all will agree. But Charpentier, while advising us to wait until labor begins spontaneously and allowing it to proceed undisturbed as far as possible, recommends the use of forceps or version in the second stage when labor is at all slow. His experience, that labor proceeds as a rule rapidly in cases of intra-partum eclampsia, does not coincide with the observations which we have made in such cases. In our experience labor has been as a rule slow, with weak and inefficient pains. In 1892 Charpentier collected reports of a series of 454 cases in which he claimed that the mortality to the mother was only 13 to 15 per cent. in the spontaneous cases, 29 to 31 per cent. in cases of induced labor, and 40 to 74 per cent. in cases in which *accouchement forcé* was employed. In 1896 his views as expressed at the Geneva Congress were the same. The English writers are also inclined to allow pregnancy to proceed, but Playfair in his latest work[1] says, "If the os is undilated and labor not yet begun, no active means to induce it should be adopted *although* the membranes may be ruptured with advantage, since that causes no irritation." Evidently, then, he thinks that it is better to have the uterus emptied, although he is against forced dilatation and especially version.

Professor Byers of Belfast,[2] claiming to represent the British school of midwifery, also advises against the induction of labor, for the following reasons: (1) because the methods used increase reflex excitability; (2) in many cases the time required is so great that the fate of the patient is decided before delivery is effected; (3) the onset of labor would increase the dangers; (4) because the necessary manipulation increases the risks of sepsis. To our minds the use of chloroform, proper dilatation, and strict asepsis would offset these objections. Byers says that of 30 cases of eclampsia at the Rotunda Hospital, 4 occurred during pregnancy. The labor in none of the patients was induced, *yet all recovered.* Three of these women were delivered normally, one four days, another ten days, and the last twenty-two days later, the fetus in each case being macerated, while the fourth patient left the hospital three weeks after her eclampsia, undelivered, no further reference being made to her. These cases are quoted merely to show that these patients do recover at times under medical treatment alone.

In our own country the weight of evidence is certainly in favor of the induction of labor, and further, in the emptying of the uterus as soon as possible consistent with the welfare of the mother. The late

[1] Playfair, "Science and Practice of Midwifery," Ninth English Edition, 1898.
[2] Congres. Internat., 2d session, Geneva, 1896.

Professor Lusk,[1] although recognizing the fact that labor occurs spontaneously in most cases, and that a certain number of patients under medical treatment alone will recover and pregnancy continue, said that in his own experience, "waiting had been uniformly disastrous," while the induction of labor had furnished a certain proportion of recoveries. That the uterus should be emptied as soon as possible by appropriate and well-chosen methods is the belief also of Tucker, Flint, and Edgar of New York, Jewett of Brooklyn, and many others of excellent experience. Of the German writers Winckel is conservative, Dührssen radical, as we shall see, while others occupy a middle ground of "prudent" interference.

To my mind the best and safest plan to pursue is that which will place the woman in the best possible condition for recovery, that is, the evacuation of the uterus with the greatest possible care and with strictest aseptic precautions. If, then, the uterus is to be emptied, what methods are available, and which are best? During the first few months of pregnancy, at which time eclampsia rarely occurs, the best procedure is to place the patient under chloroform to the surgical degree, and under strict aseptic precautions to dilate the cervix with hard rubber and steel dilators removing fetus and secundines with the curette. If the cervix proves very rigid and dilatation difficult the better plan would be to introduce strips of iodoform gauze, under strictest aseptic precautions, into the uterine cavity between the membranes and the wall of the uterus, tamponing the lower uterine segment and cervix. The gauze acts as a foreign body, thus starting up uterine action, softening the cervix, and finally bringing about the expulsion of the fetus, secundines, and tampon. For the general practitioner the latter method is advised as being the safest and best. Medical treatment must of course be given to these, as to all patients, in conjunction with operative measures. After the first few months, treatment will vary according to the condition of the cervix. If the latter is soft and yielding the best treatment would seem to be that of manual dilatation, preceded if necessary by the use of the hard rubber dilators of Hanks, and the steel dilator, such as that of Goodell. By careful and gradual stages, with the aid of the bimanual method of dilatation, the details of which cannot be entered upon here, the cervix can be fully dilated or almost so, at which time the membranes can be ruptured and the child delivered by forceps or version as may seem best to the individual operator. If the child is dead craniotomy will enable one to extract the child through an os not fully dilated, but as a rule dilatation should be made as complete as possible in order to avoid laceration with the forceps or after-coming head. If the cervix is tough and unyielding, it will be far better to rupture the membranes and use the water dilator, following this with manual dilatation; or to introduce several bougies, pack the cervix tightly with iodoform gauze, and thus bring about a relaxed condition of the cervix, with partial dilatation, at least, of the internal os. When softening has occurred the labor can be completed by manual dilatation succeeded by forceps or version. In the great majority of cases, however, delivery can be safely accomplished within a moderate number of hours by careful, painstaking manual dilatation. We lay great stress on the necessity of deep narcosis during operative procedures, not only for the purpose of obtaining complete relaxation, but also to avoid all possible irritation of the patient. We maintain also that the rupture of the membranes alone is but a temporary expedient and its action far too slow in inducing labor, the latter being frequently much more difficult because dry.

Another plan of procedure, of which much has been heard and a great deal said during the past few years, is that known as Dührssen's method. This consists in removing the cervix as a barrier to delivery by the use of four to six incisions extending out as far as the uterovaginal junction, the method to be employed, however, *only* when the supravaginal portion of the cervix has been fully obliterated. Dührssen[2] maintained that in 93 per cent. of cases the attacks ceased at once or soon after delivery and therefore that the sooner the uterus is emptied the better. If the supravaginal portion were still present he would rupture the membranes and use a water dilator until the time should arrive when incisions could be made. The mortality according to his figures was between 19 and 24 per cent., a result certainly gratifying if experience should prove its correctness. But almost all operators condemn its use except in cases in which manual dilatation is impossible, or when emergency calls for it, as in the case of a moribund patient. But even in an emergency Cæsarian section is far easier, if consent can be obtained to perform it. Charpentier[3] has steadily opposed it, saying that Dührssen's own figures show that the method is not as harmless as he claims. Lusk said the method was unnecessary; Winckel[3] that it had been proven dangerous by von Herff and Mackenrodt (*Centralbl. f. Gynäk.*, p. 128, 1892) and was certainly not to be used by men not skilled in gynecologic operations. Morisani of Naples[4]

[1] Lusk, "The Science and Art of Midwifery."

[1] Dührssen, "A Manual of Obstetric Practice for Students and Practitioners." English Edition, 1897.
[2] Congres. Internat., 2d session, Geneva, 1896.
[3] Winckel, "Lehrbuch der Geburtshülfe."
[4] Congres. Internat., 2d session, Geneva, 1896.

fears, not the hemorrhage or septic infection, but rupture of the uterus during the extraction of the child, the laceration extending upward from the limit of the incision into the lower uterine segment. That this accident has occurred there are cases on record to prove, but there can be no question that the operation has been performed many times in unsuitable cases, with consequent evil results. At the present time, however, it must be said that the procedure is considered as a rule unnecessary, as often attended by danger even in skilled hands, and, according to Edgar,[1] should be undertaken only by those who are thoroughly skilled in surgical anatomy and technic.

So much for the method of Dührssen. Cæsarian section at the end of pregnancy, or during labor, need not detain us long. Although used by some, as Halbertsma of Utrecht,[2] the method is considered far too radical and dangerous by the majority of accoucheurs, who reserve the operation for moribund patients or when the cervix is undilatable. Morisani prefers it, however, to the incisions of Dührssen.

2. Coming now to the second class of cases, or those in which labor has begun when the convulsions appear, let us take up first the treatment of patients in the first stage. Labor pains having begun, authorities almost universally agree that progress should be hastened by all means compatible with the safety of the mother. Charpentier and Winckel prefer to wait until the cervix is fully dilated or dilatable, but the greater number aid in hastening the progress of labor in various ways. The English school uses hot douches, Barnes' bags, and the dilator of Champetier de Ribes, but American operators as a rule prefer the hand for purposes of dilatation, maintaining that usually manual dilatation is successful in accomplishing the desired result safely, in a moderate length of time, and without rupture of the membranes (thus facilitating version). During the second stage of labor *all* agree, even the most conservative, that delivery should be completed as soon as possible, by forceps or version, or by craniotomy, if the child is dead. In the third stage of labor moderate bleeding (providing, of course, the patient be able to withstand the loss of blood) should be encouraged by allowing the uterus to remain relaxed, and deep narcosis should be kept up until the placenta has been removed and labor completed. Further treatment of these cases and those of postpartum eclampsia consists in the use of hot salin enemata and such medication as appears to each individual as the most efficacious.

[1] Edgar, *Medical Record*, December 26, 1896 and January 2, 1897.

[2] Congres. Internat., 2d session, Geneva, 1896.

CLINICAL MEMORANDUM.

A CASE OF INSTRUMENTAL RUPTURE OF THE UTERUS.[1]

By JOHN O. POLAK, M.D.,
OF BROOKLYN, N. Y.;
ADJUNCT PROFESSOR OF OBSTETRICS IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL; INSTRUCTOR IN OBSTETRICS IN THE LONG ISLAND COLLEGE HOSPITAL; SURGEON TO THE WILLIAMSBURGH HOSPITAL.

THE subject of this report is a Polish woman, aged twenty-eight years, married, whose first pregnancy occurred some nine months ago within the right tube. Ectopic gestation was diagnosed before rupture and an abdominal section performed at St. Catharine's Hospital during the summer of 1898. Menstruation has not recurred since the operation. The patient was referred to the writer by Dr. Emerson.

No satisfactory history could be obtained owing to the patient's inability to speak English or German. An examination resulted in the following findings: An abdominal scar in the median line showed evidence of previous suppuration; a hernial impulse could be made out near its lower angle. The vulva and vagina presented nothing abnormal. There was a purulent discharge coming from the uterus, which was increased by uterine manipulation. The uterus was in a normal position, the fundus fixed, though the cul-de-sac and fornices seemed free of inflammatory products. What seemed to be a displaced left ovary was found just posterior and to the left of the fundus, and on following out the left cornu a tube was felt which appeared continuous with a loop of the intestine. No adnexa were found on the right side. These findings were thought to be verified under anesthesia. Celiotomy was advised. On January 21, 1899, under ether, the cervix was dilated preparatory to curetting. A Wylie instrument was used, followed by one of the Goodell pattern. The last-named instrument went through the uterus, causing a rent near the right cornu. This was promptly recognized on passing a curette into the organ. The curette was withdrawn and the uterus packed with iodoform gauze.

The patient's pulse immediately ran up to 160 and became almost imperceptible. She had a distinct chill which lasted some ten minutes. She was then placed in the Trendelenburg posture, the abdomen was opened, and a quart of hot saline solution poured into the peritoneal cavity. This improved her general condition. The intestines were found matted together by dense adhesions and covered the uterus. They were freed with the greatest difficulty. The gut was torn twice before the uterus could be brought into view. It was then seen that the tear through the posterior aspect of the uterus near the right cornu was an inch and a quarter long. Five very heavy braided silk ligatures were lying in the rent, evidently suppurating their way through the uterine wall. The end of the iodoform gauze which I had inserted was protruding from the wound. Both ovaries and tubes were absent. The supposed ovary was nothing but a

[1] Reported to the Brooklyn Gynecological Society, March 5, 1899.

localized mass of exudate and the supposed left tube turned out to be the sigmoid adherent to, and running out from, the left cornu. The vesico-uterine space was obliterated by adhesions to the bladder and the parietal peritoneum.

Hysterectomy was considered and decided against owing to the patient's condition. After removing the silk ligatures and trimming the ragged edges of the tear which I had made in the uterus, a strip of iodoform gauze was sewn to the piece already in the uterus, and an assistant pulled it through into the vagina. When sufficient had been drawn through I packed the balance into the uterine cavity from above and closed the uterine wound over it with interrupted sutures of catgut, covering these with visceral peritoneum by means of a Lembert suture. The rents in the intestine had been closed in the meantime by an assistant. Another quart of hot saline solution was left in the belly and the abdominal wound closed, two strips of twisted gauze being left for drainage, one extending to the cul-de-sac and the other to the wound in the uterus. The patient was kept in Clarke's position during the first twenty-four hours and reacted nicely. The after treatment consisted of the administration of $\frac{1}{30}$ of a grain of strychnin every four hours, and an enema of 1 pint of hot saline solution every six hours. The recovery was uncomplicated except for a stitch abscess. The temperature was normal in five days and has remained so since.

The points of interest in the case are: First, the character of the accident, which was undoubtedly due to a weakening of the uterine muscle consequent upon Nature's attempt to throw off the infected silk ligatures *via* the uterus. Finding them in the uterine structure indicates this; the purulent discharge from the cervix was from this process. Second, the manifestations of shock while under anesthesia. Third, the difficulties of intra-abdominal diagnosis even under anesthesia when peritonitis has been a forerunner.

NEW INSTRUMENT.

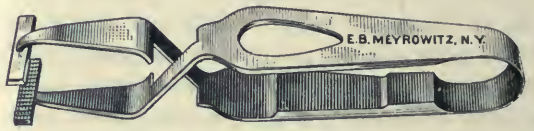
AN IMPROVED MICROSCOPIC FORCEPS.

By JOHN LESHURE, M.D.,
of New York;
Clinical Assistant in the Department of Laryngology, Vanderbilt Clinic.

The writer has found the instrument presently to be described a very useful addition to the pathologist's armamentarium, it being a modification of the well-known Cornet cover-glass forceps, and so constructed as to hold firmly glass microscopic slides as well as cover-glasses. Reference to the accompanying cut will illustrate the main points in its construction.

The jaws terminate in T-pieces which, being accurately ground on their opposing surfaces, grasp the slide firmly and allow of no sliding motion, this effect being enhanced by extra stiffness of the spring handles. Staining fluids can be applied to the slide while the latter is still in the grasp of the forceps, as the weighted handle tends to keep the preparation level and at a distance from the table when the apparatus is laid down. Lessened danger of infection and cleanliness are among the advantages claimed for it, as all of the various operations of fixing, staining, etc., can be performed without touching the glass slide with the hands.

The forceps can be used for cover-glasses as well as for slides, but in general it will be found much more con-



venient to make hematologic and bacteriologic preparations directly upon the glass-slide, much of the danger of breakage being thereby avoided. In this connection might be mentioned a useful hint regarding the staining of blood-preparations with eosin: the dye seems to penetrate much better if several applications are made, each portion being washed off with water before the next is applied. The method is as follows: the slide after having been fixed is flooded with a strong alcoholic solution of eosin, which is allowed to remain for about half a minute; this is then washed off in running water, and a second application made and washed off as before. This process may be repeated several times, depending upon the thickness of the preparation and the depth of staining desired. The preparations, however, are rarely overstained by this method. The counter-staining with methylen-blue, or the other basic dyes, is performed in the usual manner.

MEDICAL PROGRESS.

The Cold Bath in Typhoid.—Hare ("The Cold Bath Treatment of Typhoid Fever," London, 1898) reports a series of careful observations in the treatment of typhoid fever from the Brisbane General Hospital, Queensland, Australia. From May, 1882, to January 1, 1887, the expectant treatment was pursued in a series of 1828 consecutive cases. Following January 1, 1887, 1902 cases were treated by the Brand method up to January 1, 1897, and the author compares results in the two series. In a large majority of his cases he confirms the conclusions of Tripier and Bouveret, that the average temperature during the first days' treatment by the cold bath forms a maximum which is never exceeded on any following day, and that, therefore, defervescence begins with the first day of the treatment.

In order to confirm clinically the statement that cold bathing lessens the death-rate from circulatory failure in typhoid fever, two entirely comparable groups of charts were chosen, one from each series, which showed that the progressive acceleration in the pulse-rate due to cardiac degeneration from persistent pyrexia was deferred and less marked in the cold-bath cases. In no case of the author's second series was a bronchitis set up, and complicated pneumonia was less frequent, as was also the occurrence of nervous symptoms. In the two years 1888 and 1889, 934 cases of the fever were admitted to the

Brisbane Hospital, with delirium or stupor noted in 71, or 7.6 per cent. of the number, while Murchison found these symptoms present in 67 per cent. of all his cases. Of Hare's 71 cases, 34 presented the symptoms on admission, and of the remaining 37, 2 were not bathed at all, and 24 became delirious for the first time only after the baths were stopped, leaving therefore, only 11 cases out of the 934 admitted, in which nervous symptoms arose in spite of the bathing. The Brand treatment reduced the occurrence of nervous symptoms from over 50 per cent. to less than 8 per cent. Murchison notes diarrrhea in 93 out of 100 cases, while at the Brisbane Hospital 52 per cent. of 351 consecutive cases in the "expectant" series showed the symptom, and 39 per cent. of 934 consecutive cases in the "bath" series. Hare states further that intestinal hemorrhage was reduced about 2 per cent., and that the occurrence of relapse was not apparently influenced in either direction by the cold bath. The mortality under expectant treatment was 14.8 per cent., reduced 50 per cent. in the cold-bath series to 7.5 per cent. The author regards hemorrhage as a relative contraindication, and perforation as an absolute contraindication for the use of the bath.

Surgical Shock.—CRILE ("An Experimental Research into Surgical Shock") holds that there is sufficient evidence to show that surgical shock is in direct proportion to the nerve-supply and to the functional importance of the part injured. In his experiments on dogs, blood-pressure curves showed injury of the paws to be more productive of shock than that of any other superficial part of the extremities, the experiments being made without loss of blood. Cutting, crushing, fracturing, amputating, and burning the extremities were usually attended by a preliminary rise in blood-pressure, followed by a fall usually lower than before the operation. The author holds that there is no evidence of the correctness of the opinion expressed by many clinicians that there is considerable shock produced in sawing through the bone in amputations, nor of similar opinions as to opening large joints, and thinks that the error probably arose in confusing the effects of cutting or traction of the nerve-trunks in these operations.

Traction on a nerve-trunk was shown experimentally strongly to influence respiration and circulation, and shock was in direct proportion to the amount of excitable tissue injured, and the time occupied in the operation.

The Cancer Parasite.—BRA (*La Presse Med.*, February 12, 1899) decribes in detail his work on the isolation and cultivation of the parasite of cancer, and claims to have successfully reproduced the disease in animals by inoculation. He has spent four years on methods for the demonstration of his parasite, and states that in a vast number of malignant neoplasms, involving every region of the body, he has been able regularly to isolate a fungus belonging to the family of the ascomycetes. His report is accompanied by a number of illustrations in black and white, with careful descriptions of the appearance of the fungus under cultivation. The parasite may be isolated either from cancer-tissue or from the blood of the tumor or the general circulation, but the former is stated to be the proceeding of choice. Small cubes of cancer-tissue are plunged in 2½ per cent. carbolic-acid solution, followed by ether, and carried lightly through the flame of a Bunsen-burner. They are then placed in tubes of bouillon de mamelle (bouillon of cow's udder) and cultivated at a temperature of 30 to 35° C. for twenty hours, at the end of which period the fluid is rose-colored, and contains adult forms of the fungus. The best growth is obtained on agar. The parasite is described as presenting a round or ovoid cell body, varying in diameter from 3 to 12 μ, with an enveloping membrane. These spherules give rise by endogenous cell division to very minute reddish spores, which in turn develop a rich, branching myceliuni. The parasite stains by the aniline dyes, and by Gram's method, and the author holds that his parasite has undoubtedly been seen by previous workers but regarded as a product of cellular and colloid degeneration or nuclear division.

Inoculation experiments succeeded best with rabbits. The intravenous inoculation of 1 c.c. of a virulent bouillon culture produced a subacute infection on the fourth day, with depression of the body temperature, somnolence, myosis, salivation, diarrhea, polyuria, and paresis of the hind legs, followed by complete immobility and profound coma. A dose of 2 c.c. produced an acute infection with similar symptoms in 24 hours, and 3 c.c. produced the diarrhea with polyuria in 16 hours. The author states also that it is possible to immunize the animal to the fatal dose by previous subcutaneous injection of minute doses. Animals dead of the infection showed mycotic nodoles on the pericardium, the endocardium, or within the heart-muscle.

The heart was atrophied, the liver granular, the kidneys and mesentery congested, and Pyer's patches enlarged. Examination of the blood and urine, and of cultures made from the liver, kidneys and supra-renal bodies revealed the parasite. The tumor, however, which develops at the site of inoculation is stated to present indifferently the structure of fibrosarcoma or of carcinoma. Sometimes typical fibrosarcoma is shown, and sometimes in an animal of the same variety the growth presents the usual appearance of carcinoma. The parasite may be isolated from these tumors as well as from the human new growth.

Death with Cerebral Symptoms in a Case of Extreme Dilatation of the Stomach.—V. JUERGENSEN (*Deutsche Archiv für klin. Med.*, Bd. lx.) reports a case of gastrectasis and death with cerebral symptoms, which is noted in the *Centralbl. für Innere Medicine*, February 25, 1899. The patient, an emaciated man, forty-three years of age, complained of intense thirst and continuous vomiting. During one night he drank ten liters of water, and the following day developed general convulsions, which terminated in complete coma in the course of forty-eight hours. The respiratory movements were Cheyne-Stokes in character, the pupils were contracted, and did not react to light, and the tendon reflexes were abolished. Death occurred at the end of the third day. Autopsy

showed only extreme gastrectasis, as a result of contraction in an old scar at the pylorus. The urine had not been voided, but only 100 c.c. (3 oz.) were found in the bladder. Concentration of the blood in gastrectasis, due to the collection of fluids of the body in the dilated gastric sac, may explain the terminal exhibition of nervous phenomena, but the clinical picture in this case is so like that of acute uremia that an acute intoxication of the organism by the retained urinary elements may be assumed.

A Simple Prostatectomy.—PYLE (*Phila. Med. Jour.*, April 1, 1899) has performed prostatectomy a number of times in the following manner: A curved incision is begun at a point near the middle of one ischiatic tuberosity and carried in front of the anus, between the sphincter and transverse perineal muscles, to the other tuberosity. The sphincters are detached from the median raphe, and the surface of the levator ani followed up to the membranous urethra. The muscle is there divided, and the finger used to separate the urethra from the rectum until the fascia overlying the prostate is brought into view. The offending lobe of the prostate is seized with volsellum forceps and dragged down on its own side of the urethra, while the fascia overlying it is divided with a knife. By using the finger again, beginning at the upper and outer border of the lobe, it is separated from the bladder without injury to the mucous membrane of the latter. Both lobes may be removed if necessary. If one remembers that all the important blood-supply of this region lies in front, behind, and to the outer sides of the proper operative field, the whole operation can be performed with almost no loss of blood. Pyle did not have to ligate a single vessel in any one of his operations, and there was naturally little shock, and recovery was in every instance a prompt one. Calculi may be removed from the bladder or the organ drained by the same incision.

Typhoid Fever without Intestinal Lesions.—BRYANT (*Brit. Med. Jour.*, April 1, 1899) gives a history of a case of typhoid fever in which, on account of the irregular symptoms, there was some doubt as to the diagnosis. The serum reacted sharply to Widal's test, however, and at the autopsy the usual intestinal lesions were anticipated. To his great surprise there was no abnormality of any portion of the intestine as far as could be made out. The mesenteric glands were much enlarged, soft, and of a pinkish color. From them were obtained almost pure cultures of the typhoid bacilli. The spleen was somewhat enlarged. The patient was a male child aged twenty-one months, and was apparently in the third week of the disease when it was brought to the hospital. From then until its death, a week later, the chief symptoms were a daily fever of 104° to 105° F., and a greenish, watery diarrhea. There was a very little bronchopneumonia. Some fourteen similar cases have been reported, the patients varying in age up to sixty years. They make good the claim of Osler that "typhoid fever is no more primarily intestinal than is smallpox primarily a cutaneous disease." It is probable that if autopsies in obscure cases were carried out more thoroughly and bacteriologic tests were oftener applied, many more such cases would be noted.

A Case of Swallowing Stones.—CANE (*Lancet*, March 18, 1899) was called upon to treat a man, aged thirty-two years, for intestinal obstruction caused by the impaction of pebbles. When fourteen years of age this patient, in imitation of a juggler he had seen, swallowed a number of pebbles. They passed his rectum the following day without difficulty, and finding it not so unpleasant to be a juggler, he many times repeated the performance, at first for the amusement of his friends, and afterward in connection with a circus. He often swallowed several dozens of the stones in one day, and never had any difficulty in passing them, except that occasionally he inserted a finger in his rectum to assist in their evacuation. Two days before he entered the hospital he gave three performances, morning, afternoon, and evening. The next day he failed to pass the stones, and toward evening he began to have colicky pains. Castor oil, which he had taken, increased his pain, and produced besides a little blood and mucus six stones. His sphincter was gradually dilated without an anesthetic, and sixty-six stones were extracted from the rectum. This procedure was attended by considerable pain, apparently due to a single stone with a jagged edge, as after its extraction no more pain was experienced. In all, ninety-one stones were removed at that time and during the following day weighing exactly two pounds. Recovery was uneventful. This case affords another illustration of the remarkable tolerance of the alimentary canal for foreign bodies.

The "Strumous" Diathesis.—DUCKWORTH, in the Harveian Oration for 1898 advises the free surgical excision of disordered lymphatic glands in strumous individuals, even though in many cases neither tubercle bacilli nor caseous matter can be detected in them. They represent a good soil wherein tubercle bacilli may lodge and induce caseation should they gain entry. This peculiarity of the lymph system in the strumous subject justifies the use of the term "strumous inflammation," independent of the modern idea of tuberculosis. A strumous habit of body has doubtless a marked influence in modifying other morbid conditions which may occur in earlier or later life. The specific reaction to simple irritants giving rise to strumous inflammation of lymphatic glands, which is common in youth, may remain in the adult, and extend into advanced life, and the consequences of infections as by scarlatina or syphilis, or the gouty irritation, may be, and probably are, greatly modified by this tendency, giving rise to varieties in the several manifestations of these diseases. Thus gout appears to have a tendency to linger in strumous subjects, and in its articular form to be attended here by greater effusion, while chronic tubal nephritis in such subjects is more than usually grave and resistant. The author concludes, in short, that the strumous diathesis is a bad one for the coincidence of the most morbid conditions.

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SATURDAY, MAY 6, 1899.

TRAUMA IN THE ETIOLOGY OF MALIGNANT DISEASES.

At the recent meeting of the German Surgical Congress, a condensed account of whose proceedings appears in this issue of the Medical News, a committee was appointed to investigate the connection between injuries of various kinds and malignant diseases.

This concerted effort at serious investigation of a large number of cases will undoubtedly serve to throw light on that extremely important subject—the immediate etiology of cancer. It has long been recognized that in females cancer occurs at points especially liable to recurring injury and irritation—the uterus and the breast—and is found not infrequently to have its origin in the scar-tissue of an old laceration or fissure. In the gall-bladder cancer occurs with noteworthy frequency in cases in which gall-stones have been present. In the stomach the beginning of cancer in the scar of an old ulcer is so frequently met with that it scarcely attracts special attention when found at autopsy. Cancer of the gastro-intestinal tract generally occurs at points subject to frequent trauma and frequently repeated irritation: on the tongue, at the two points of narrowing of the esophagus, at the pylorus, at the colic flexures, and in the rectum.

What is needed now, however, is a thoroughly scientific investigation of the other conditions preceding the development of cancer in these cases and the manner in which the first cancerous degeneration manifests itself. The editor of *The Practitioner*, in the recent cancer number of that journal, calls attention to the fact that there is in modern medical science too much individualization in investigation. Not only is too little account taken of what is being done by others, but above all too little opportunity is given to other workers in the same line of scientific investigation to substantiate or disprove what has been supposedly discovered. There is certainly in this matter of collecting the statistics and comparing the experiences of a large number of professional men with regard to trauma and malignant disease an opportunity to bring us nearer to the heart of the greatest mystery that now remains in medical science.

American contributions to our knowledge of cancer have been, in the last twenty-five years especially, very considerable. When the report of the Committee of the German Surgical Society shall be submitted next year it is not too much to hope that a very considerable body of trustworthy, carefully sifted, American statistics may be at hand to aid in making the question clearer.

LAMINECTOMY AND DRAINAGE FOR CEREBROSPINAL MENINGITIS.

Lumbar puncture has come in to more or less general use, but it is as a diagnostic not a therapeutic measure that it has won its place in medicine. The hopes originally raised that it would prove to be a valuable therapeutic resource by relieving pressure in simple serous meningitis, and even provide a certain amount of drainage in purulent cases with evacuation of toxic material have been utterly disappointed. It has even been thought sometimes in purulent conditions to hasten the end by giving occasion for the generalization of infection through lowering the pressure in the spinal canal and so permitting the spread of infectious material beyond its original limits. Despite this disappointment, however, all hope of giving surgical relief to purulent cerebrospinal affections was not abandoned.

The question even of direct medication through the spinal canal by the injection of remedies was discussed and certain experiments upon animals and observations on very bad cases in human beings were made by German investigators.

At least one British surgeon has trephined and opened the occipital fossa in order to relieve intraventricular pressure in chronic serous meningitis. It is somewhat as the climax of these various efforts that Herbert Allingham and H. D. Rolleston report (London *Lancet*, April 1st) a case of cerebrospinal meningitis successfully treated by laminectomy in the dorsal region with drainage until all secretion had ceased.

The patient was a young man aged twenty-four, under Dr. Rolleston's care who presented certain symptoms that led to the diagnosis of cerebrospinal meningitis, though all the typical signs of that disease were not present. His condition grew continually worse for seven days. There was great rigidity of the neck, knee-jerks were absent, pupils failed to react, increasing drowsiness became manifest and trophic changes in the skin at certain points set in. Death seemed the only possible issue when Mr. Allingham was consulted and consented to operate.

The dura was found bulging after laminectomy in the dorsal region. It was incised to the extent of an inch in the long axis of the cord and after the evacuation of about three ounces of coagulated lymph and cerebrospinal fluid a drainage-tube was inserted down to the cord, tapping the subdural space. The day after the operation the patient was much better and he continued to improve. After about five weeks the drainage-tube was permanently removed and at the expiration of seven weeks the wound was completely healed.

Of course there remains the doubt whether a case like this might not have improved without any surgical intervention. Cerebrospinal meninigitis, when it does not kill early, often produces very serious symptoms for a good many weeks yet goes on to recovery. In this case the impression produced on the medical attendant by the patient's condition was that death was inevitable. Then the surgeon was called in. The dorsal region was chosen because laminectomy is easier there than in the lumbar region, the spinal laminæ are more readily cut through and section of the thick lumbar muscles is avoided. The drainage-tube was used so long, seven weeks, because attempts to remove it earlier had been followed by a rise in temperature and symptoms of intraventricular pressure. As the first successful operation of its kind this will probably constitute a landmark in the history of surgical intervention in cerebrospinal affections.

OPERATIVE INTERVENTION IN CASES OF ANEURISM.

There comes into surgical practice every few years a wave of operative, quasi-radical intervention in cases of aneurism. This extends even to cases in which the lesion involves main arterial trunks. This effort toward surgical relief is not to be wondered at since of themselves the lesions are practically always progressive, and a fatal termination can be confidently and not distantly anticipated. Attention was called some months ago to a new radical method of dealing with aneurisms that was being tried in France. It consists in the injection of gelatin into the aneurismal sac. On theoretic grounds it looked eminently dangerous. The chance of embolism resulting from the clot thus formed seemed so great as to make the method at first sight unjustifiable. It was tried, however, without the serious consequences that had been foretold and the lasting results obtained have in certain cases been most satisfactory.

At the last meeting of the Clinical Society of London, March 24th, the President, Dr. John Langton, presented the report of a case of aneurism of the upper part of the abdominal aorta on which he had operated successfully by the introduction of five feet of silver wire through a cannula. The tumor in the epigastrium had developed after a pregnancy, was pulsatile, had a thrill, and was movable laterally but not vertically. As the pain was severe and increasing, an exploratory laparotomy was performed. The tumor was found to be as stated, an aneurism of the upper part of the abdominal aorta. A cannula with a trocar was inserted into it, through which silver wire was passed; very little blood escaped. The trocar opening was closed by a silk ligature. There was some restlessness and vomiting after the operation, but this gradually disappeared, and the patient recovered. Some months have elapsed since and the patient is in excellent health. She has gained in

weight, and is absolutely without symptoms. There is still a hard mass to be felt in the median line but it is much smaller than before operation, and the thrill and bruit have disappeared.

Since 1895 there have been at least six operations, not unlike this one, on aneurisms of the abdominal aorta. Of these, two patients, both operated on by Loreta, recovered, so that even in this primary and, as it were, tentative stage of the operation, there are fifty per cent. of recoveries.

When we consider how hopeless the cases are, and with how much serious discomfort their inevitable progress to a fatal termination is involved, it can be seen that the results are eminently encouraging. Recent experience with the radical treatment of aneurisms of important arteries indicates that bold surgical procedures in these cases give a very fair chance to the patient for prolonged life without serious discomfort and put an end to the unendurable, boring, continuous pain that complicates the condition when the enlarging tumor presses on important sensitive structures.

SCARLET FEVER AND MILK.

THE March report of the Buffalo Board of Health details a very striking illustration of how scarlet fever may be spread through the agency of milk and how comparatively easy it is with effective inspection and investigation to prevent the further distribution of infective material and so put an end to a serious epidemic. Within three days in February, twenty-one cases of scarlet fever were reported from a certain section of Buffalo. They all occurred along a single milkman's route. Investigation showed that everything was in satisfactory sanitary condition as far as the milkman himself and his family were concerned, also that the city milk-dealer's premises and help were above suspicion. One of the farmers, however, who supplied the dealer with milk was found to be a convalescent from some disease, the exact nature of which could not be determined, but four other members of his family were found to be suffering from undoubted scarlet fever. No more of this farmer's milk was allowed to be sent to the city for some time. The spread of the epidemic immediately stopped and the only fresh cases that occurred were reported from families already infected with the disease.

The connection of the milk-supply with the spread of scarlet fever has often been noted before. Some years ago his observations in this matter led Klein, the English bacteriologist and histologist, to the view that a form of scarlet fever occurred among cattle bearing the same relation to that disease in human beings that vaccinia does to variola under like conditions. These conclusions have not been confirmed as yet but the observations showed the importance of the most minute scrutiny of the milk-supply.

There have been few such well-conducted investigations into the relation of milk-supply and scarlet fever as this one at Buffalo. The Buffalo Board of Health is to be congratulated on its excellent scientific work, and we sincerely hope that it will attract throughout the country the attention that it deserves. The results should serve the useful sanitary purpose in disease epidemics of directing attention always to the milk-supply as well as the water-supply of the infected neighborhood. So-called sporadic cases of contagious disease, cases that occur seemingly without a source of contagion are growing rarer as better methods of sanitary investigation come into use. If present-day methods are persisted in and developed as they have been during the last ten years, we venture to say that in another decade we will have no further reports of cases of sporadic or idiopathic contagion.

THE YALE UNIVERSITY BICENTENNIAL AND YALE'S MEDICAL DEPARTMENT.

WE noted in our column of "Echoes and News" last week that a movement is on foot to secure for Yale University in honor of her bicentennial in 1901 a fund of $2,000,000. Nearly half a million of this is to go, directly or indirectly, to the medical department.

The reorganization of Yale under President Dwight has been marked by distinct advance along all scientific lines, but the medical department has scarcely shared, in due proportion, the development of the institution. We sincerely hope that the present movement will be crowned with success, and that especially the medical life of the university will be given an impetus that will make this department as powerful a factor in educational matters in this country as the other university departments have become.

We are not of those who think that progress in

scientific medicine depends absolutely on the work done in great centers of population where clinical material is abundant. We know how distracting to any real scientific medical advance a surplus of material may prove. We know, too, that much of the great scientific work of modern medicine has been done in the quiet of the study or with but small material at hand. The medical departments of German universities situated in towns of 12,000 to 25,000—Jena, Marburg, Göttingen, Heidelberg, and Greifswald—have done too much valuable work in scientific medicine to allow any illusion to remain as to the impossibility of great medical advances being made in small towns.

Of late years has come, too, for the medical profession the realization of how much more can be accomplished by a medical school that is under the ægis of a great university. Oldtime selfish methods, super-conservative attention to the interests of the faculty rather than to the higher interests of the students and of medical education, disappear before the straightforward, disinterested motives of a board of university trustees whose only motto is the development of the university, and whose one great purpose is its advance in educational methods. It will be distinctly to the advantage of medicine in America to have one more great university medical department, and such undoubtedly the medical school at Yale will prove to be if present purposes fail not. There is presented in this appeal for funds not alone to Yale graduates, but to all the philanthropically inclined whose interests are the development of the humanitarian side of modern scientific medicine, a magnificent opportunity for the exercise of the most practical beneficence. We can confidently look for great contributions to American medicine from Yale if once the opportunity is afforded. Let us hope that the effort that is being made will be crowned with the success it deserves.

ECHOES AND NEWS.

Professional Secrecy.—The Conference of Advocates of the Paris Court of Appeals has discussed and decided affirmatively the question: Does the publication in a book by a medical man of observations made upon a person treated in a hospital constitute a violation of professional secrecy?

President of the Next German Surgical Congress.—Professor von Bergmann, the Director of the Surgical Clinic of the University of Berlin, has been elected President of the next German Surgical Congress which will be held at Berlin during Easter week, 1900. He succeeds Professor Hahn, also of Berlin.

Dr. Frederic S. Dennis Honored.—Dr. Dennis of New York enjoys the distinction of being the first American physician to be honored by having conferred upon him the degree and title of Fellow of the Royal College of Surgeons of England. To be eligible to this honorary degree a man must be a graduate of the college of twenty-years' standing; only two are chosen each year.

Measles Probably Transmitted by Mail.—Thomas Marshall, a Sioux Indian died from "black" measles at the Government school at Carlisle, Pa., on April 24th. A week before his death he had received a letter from the Pine Ridge Agency, South Dakota, stating that his brother and sister had died from malignant measles. The infection was, doubtless, carried in the envelope.

Nurses' Association Convention.—The second annual convention of the Nurses' Associated Alumnæ of the United States and Canada was held at the New York Academy of Medicine May 1st, 2d and 3d. The objects of the association, as given in its constitution, are to establish and maintain a code of ethics, to elevate the standard of nursing education, to promote the usefulness and honor of the profession and guard its financial and other interests.

The Body of Dr. Gibbs Brought Home.—The transport Crook appeared in New York harbor on April 26th, with its second load of soldier-dead. The bodies of Surgeon John B. Gibbs and 11 other soldiers who died at Guantanamo were on board, also 98 bodies from Ponce and 246 from Santiago. Seventy per cent. of the dead were regulars. About 300 bodies of those who died from contagions remain near Santiago; these will not be brought home until cold weather arrives next fall.

Congress of American Physicians and Surgeons.—At a recent meeting of the Executive Committee of the Congress of Physicians and Surgeons, the following officers were elected: Dr. H. P. Bowditch, Boston, Mass., president; Dr. W.H. Carmalt, New Haven, Conn., secretary; Dr. Newton M. Shaffer, New York City, treasurer; Dr. Landon Carter Gray, New York City, chairman of Executive Committee; Dr. W. K. Simpson, New York City, secretary of Executive Committee. The next Congress will meet at Washington, D. C., in May, 1900.

International Dermatological Congress.—The Fourth International Dermatological Congress will be held at Paris from the 2d to the 9th of August, 1900. Physicians of all countries are eligible, on the payment of 25 francs, before June 1, 1900, to the general secretary, Dr. G. Thiebierge, Paris, rue de Surene 7. The titles of papers may be sent to the same address. The section on dermatology and syphilography of the Thirteenth International Medical Congress will be held in Paris at the same time, the meetings of the two organizations being joined.

The Newspaper Paragrapher Abroad.—An English newspaper reporter in a London morning journal recently made the following announcement in describing a street accident: "The unfortunate victim was taken to Guy's Hospital, where he now lies progressing favorably, although he is sedulously attended by Dr. J. R. Robinson, the resident surgeon, and some of the leading members of the staff." It is evident that there are even worse things in store for the poor medical man in England than being heartlessly pursued by some yellow-journal reporter for the details of the latest accident.

Improper Use of the X-Ray.—A suit instituted by a Chicagoan against W. C. Fuchs and Dr. O. L. Schmitt, who conducted an X-ray laboratory, to recover for the loss of a limb and other injuries which he claimed to have sustained by the improper application of the X-ray to his foot, has been decided in favor of the plaintiff, who was awarded $10,000 damages. It was alleged that in order to ascertain the cause of the stiffening of the plaintiff's ankle-joint the defendant exposed the ankle three times to the X-ray, the result being that the flesh became decomposed and that three amputations were necessary to save the patient's life.

The New Dispensary Law in New York State.—President William R. Stewart of the State Board of Charities has appointed Commissioners Stephen Smith, M.D., of New York City, Enoch V. Stoddard, M.D., of Rochester, and Simon W. Rosendale of Albany a special committee on dispensaries in order that early consideration may be given to the provisions of the recently enacted Dispensary bill. The committee will soon give hearings in New York City and elsewhere to those interested in the management of dispensaries. Later it will formulate for the board's consideration rules covering the granting of licenses to dispensaries and the giving of medical and surgical assistance by such institutions.

Bread-winning Begun at Thirty.—Professor Isaac Franklin Russell of the New York University Law School, at the annual dinner of the Society of Medical Jurisprudence, deprecated the tendency of modern professional education to keep a man from getting to work until he is nearly or quite thirty years of age. This tendency is most marked in medicine. "A bright boy, ambitious to become a physician, goes through the public school in preparation for college, where he spends four years working for his bachelor's degree and a year or two more in post-graduate study, then goes to a medical college and studies three or four years for his doctor's diploma, and, winning distinction, is awarded a staff appointment at a hospital, where he spends two years and then finishes his education by study abroad. He will now be thirty years old and without experience in bread-winning."

Typhoid Fever Spread by the Use of a Rectal Thermometer.—In a hospital of Turin three patients developed typhoid fever while under treatment for other troubles. As the cases all occurred in one ward the matter was thoroughly investigated and the conclusion was arrived at that the infection had been caused by the careless use of a rectal thermometer. In all the other wards of the hospital the thermometer after use was thoroughly washed in a 1 to 1000 sublimate solution. In this ward, however, it was the custom to take the thermometer from the rectum of one patient and after wiping it with a cloth, to insert it into the rectum of the next patient. Laboratory tests showed that numerous typhoid bacilli remained upon the instrument after it had been withdrawn from the rectum of a typhoid patient and cleaned in this manner. No new cases developed after the thermometer used in that ward was properly disinfected each time it was used.

Halle Students Protest against the Presence of Women in Their Clinics.—Halle has been one of the first of German universities to admit women to the clinical lectures in medicine. This is not at all to the liking of the young men, who have sent a written protest to the medical students of all other German universities, in order that they may by their active opposition to the introduction of a similar plan, be spared the "painful situations which mock at modesty," which, according to the protestors have become their daily lot. In the opinion of these ungallant males, "the emancipation of women in this case leads to calamity; it comes into conflict with decency, and therefore the bars must be raised against these practices." The faculty at Halle does not share this opinion and has joined in denouncing these statements as entirely unwarranted by the facts. Newspaper criticism of the "protest" is that it will do no harm to the higher education of women, while it has given a most unpleasant exhibition of the character of the German medical students.

Margarin and Butter.—The Butter Association of England has for years been making strenuous efforts to prevent the sale of margarin as butter, but with only indifferent success. Special labels and laws, and the conviction of many hundreds of offenders, do not deter tradesmen from selling as butter mixtures containing from 70 to 90 per cent. of margarin. Out of 500 samples collected and analyzed over 100 were found to be thus adulterated. The truth is that it is well nigh impossible for any one but a chemical expert to distinguish one from the other, and at a butter show not long since the product which won the first prize was afterward proven to be margarin. The butter-growers are now working for a law that shall make it an offense to color margarin, while permitting the artificial coloring of butter. In this way they hope to enable the public to distinguish the genuine from the false. While no words of condemnation are too severe for those who sell falsely labeled and injuriously adulterated foodstuffs, the matter partakes of the nature of a burlesque, when the real has to be adulterated with a dyestuff in order to protect it from its imitators.

Professor Chandler, President of the Society of Chemical Industry.—A cablegram of April 28th announces that Professor Charles F. Chandler of the School of Mines of Columbia University, New York, has been named President of the Society of Chemical Industry, which was in session last week at Glasgow, Scotland. The society is mainly composed of English chemists, and this is the

first time that an American has been chosen President of this society or, for that matter, of any English scientific society to which English-speaking scientists from both sides of the Atlantic are admitted as members. Professor Chandler will succeed to an office that has been held by such distinguished men as Sir Henry Roscoe, R. A., Sir Frederick Abel, R. A., Sir John Evans, and Sir Lowthian Bell. Professor Chandler was one of the founders of the Columbia School of Mines. He was connected for many years with the New York City Board of Health. In 1866 he was appointed chemist to the Board of Health, and became its President in 1873. He held this position until 1884. It is proposed to tender Professor Chandler a public reception upon his return from the Industrial Congress.

Meeting of Rectal Specialists.—The following is the program of the First Meeting of Rectal Specialists which will occur at Columbus, Ohio, June 6 to 9, 1899. "The Importance of Giving Rectal Diseases Special Study," Jos. M. Mathews, Louisville. "Pruritus Ani," Jas. P. Tuttle, New York City. "Surgical Treatment of Non-Malignant Stricture of the Rectum," Joseph B. Bacon, Chicago. "A Modification of Whitehead's Operation for Hemorrhoids," Samuel T. Earle, Jr., Baltimore. "The Proctoscope as a Factor in the Diagnosis and Treatment of Simple Ulceration of the Rectum," Leon Straus, St. Louis. "A Consideration of the Various Forms of Ulceration of the Rectum," Lewis H. Adler, Jr., Philadelphia. "Rectal Carcinoma—Excision and Subsequent Colotomy," B. Merrill Ricketts, Cincinnati. "The Limitations of the Kraske Operation," Charles C. Allison, Omaha. "The Act of Defecation," Thomas Charles Martin, Cleveland. "Constipation Considered from the Standpoint of the Proctologist," A. Bennett Cooke, Nashville. Paper and Exhibition of New Instruments, S. G. Gant, Kansas City. "Rectal Adenomata," William M. Beach, Pittsburg.

A Reversal of Judgment in the St. Vincent's Hospital Case—The Appellate Division of the Supreme Court of New York has ordered a reversal of the judgment of the lower court which had decided for the defendant in the case, the hospital. The plaintiff it will be remembered sued because she was severely burned by hot water bottles which were applied after an operation and while she was still under the influence of ether. The reversal was unanimously concurred in by the supreme bench but not on the grounds of damages for negligence, but for breach of contract. In taking the patient on the "pay side" of the house the hospital had agreed to furnish a trained nurse to the plaintiff, but instead of fulfilling this agreement had allowed her to be waited on by a pupil nurse who had studied but nine months out of the course of two years. Judge Barrett, who wrote the decision, said that the contract to furnish the nurse was express, specific, and valid, and the plaintiff was entitled to the same damages as if the action had been for negligence pure and simple.

The evidence for the defendant tended to show that the nurse had had experience in attending surgical cases and that she had given satisfaction, especially that she had been instructed by a competent teacher in the proper use and placing of hot water-bottles. The court held that though the nurse's single act of negligence did not necessarily establish her general incompetence, it was for the jury to decide whether this act was one of negligence on the part of an ordinarily skilful, trained, and competent nurse, or whether it was attributable to inexperience and lack of that continuous training which a full two-years' course would have afforded.

ANNOUNCEMENT.

REVISION OF THE PHARMACOPŒIA.

IN accordance with instructions given by resolutions passed at the National Convention for Revision of the Pharmacopœia of the United States of America, held in Washington, A.D., 1890, I herewith give notice that a General Convention for the Revision of the Pharmacopœia of the United States of America will be held in the City of Washington, D. C., beginning on the first Wednesday in May, 1900. It is requested that the several bodies represented in the Convention of 1880 and 1890, and also such other incorporated State Medical and Pharmaceutical Associations, and incorporated Colleges of Medicine and Pharmacy, as shall have been in continuous operation for at least five years immediately preceding this notice, shall each elect delegates, not exceeding three in number; and that the Surgeon-General of the Army, the Surgeon-General of the Navy, and the Surgeon-General of the Marine Hospital Service shall appoint, each, not exceeding three medical officers to attend the aforesaid Convention.

It is desired that the several medical and pharmaceutical bodies, and the Medical Departments of the Army, Navy and Marine Hospital Service shall transmit to me the names and residences of their respective delegates, so soon as said delegates shall have been appointed, so that a list of the delegates to the Convention may be published in accordance with the resolutions passed at the 1890 Convention for the Revision of the Pharmacopœia, in the newspapers and medical journals in the month of March, 1900.

Finally, it is further requested that the several medical and pharmaceutical bodies concerned, as well as the Medical Departments of the Army, Navy and Marine Hospital Service, shall submit the present Pharmacopœia to a careful revision, and that their delegates shall transmit the result of their labors to Dr. Frederick A. Castle, 51 West 58th Street, New York City, Secretary of the Committee of Revision and Publication of the U. S. Pharmacopœia, at least three months before May 2d, 1900, the date fixed for the meeting of the Convention.

H. C. WOOD, M.D.,
President of the National Convention for Revising the U. S. Pharmacopœia, held at Washington, D. C., A. D., 1890.

UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA, May 1, 1899.

CORRESPONDENCE.

THE NEW DISPENSARY LAW.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—Your article in the issue of the MEDICAL NEWS for April 29th, entitled "The New Dispensary Law of New York" is one with which we agree in the main, but we must call attention to your statement that "the bill, which has just become a law, is the same, with a few unimportant modifications, as that which was introduced during last year's session of the Legislature, and which failed to be reported back from the committee to which it was referred." These modifications are not only far from being unimportant, but are so important, that, but for them, the bill would not have become a law. They are to be found in sections 20, 22, and 25.

In section 20 of last year's bill the State Board of Charities could have refused a license to any dispensary, no matter how long established, if in the judgment of the Board the operation of such dispensary was not for the public benefit. In the bill which has just become a law the Board is *directed* to issue licenses to all dispensaries incorporated at the time of the passage of the act, and to unincorporated dispensaries conducted in connection with incorporated institutions at the time of its passage.

In section 22 the Board is directed to apply to the Supreme Court to annul the licenses granted such dispensaries for wilful violation of the rules and regulations made by the State Board of Charities.

Last year's bill gave sweeping and arbitrary powers to the State Board of Charities, allowing it to deny licenses to institutions already incorporated, and to revoke licenses to such incorporated bodies after having issued them, without giving reasons for doing so, beyond saying that "in its judgment" the operation of the institutions was not for the public benefit. Of course, an institution feeling itself unjustly treated could appeal to the Supreme Court; this, we believe, is a privilege it does not require an act of legislature to grant. Under the law just enacted, if an institution incorporated at the time of the passage of the act, does not feel that the rules and regulations made by the State Board of Charities are reasonable and just, it can refuse to obey them, and the State Board must apply to the Supreme Court to enforce them. This modification to the bill of last year we offered as a check on the State Board of Charities, believing that the Supreme Court would refuse to endorse unjust rules and regulations. We felt also that this was the surest way to secure the enforcement of reasonable and just rules and regulations. This law does not give permission to the State Board of Charities to make rules and regulations; the Board is *directed* to make them and is also *directed* to see that they are enforced.

Section 25, which makes it a misdemeanor to obtain aid at a licensed dispensary (and there can be no unlicensed dispensaries) is also an important modification of the bill of last year, and one which in itself can be made a potent factor in preventing abuses.

While there are weak points in this law, taking it altogether it is a reasonable and just measure, and one which will protect the medical profession and the dispensaries as well. These modifications, which removed all opposition to a dispensary law, were offered directly to the State Board of Charities by the representatives of the Medical Society of the State of New York, and represents that Society's idea of justice to all concerned.

Very truly yours,

FRANK VAN FLEET, M.D.,

Chairman of the Committee on Legislation of the Medical Society of the State of New York.

NEW YORK, April 29, 1899.

[It is true as our correspondent says that the methods of procedure of the State Board of Charities in performing its duties are decidedly different from those prescribed in the Bill of last year, but the end to be accomplished is the same. It has been stated that the credit for the passage of this Bill belongs to the Committee on Legislation of the State Medical Association. It is gratifying to know that the Bill also has the endorsement of the Committee of the State Medical Society. With so unanimous a sentiment there should be no difficulty in the execution of the law.—ED.]

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

AN INTERESTING CASE OF ANEURISM OF THE AORTA—SEPTIC PERITONITIS FOLLOWING INFLAMMATION OF THE UTERUS CONSEQUENT ON CANCER—COMMENCEMENTS OF THE MEDICAL COLLEGES--DECISION IN FAVOR OF THE GERMAN HOSPITAL IN THE AUTOPSY SUIT—CERTIFICATES OF HONOR FOR VOLUNTEER NURSES—PERSONAL NOTES—HEALTH STATISTICS.

PHILADELPHIA, May 2, 1899.

AT a recent meeting of the Pathological Society Dr. W. E. Hughes presented an unusual and interesting case of aneurism of the thoracic aorta which occurred in a man sixty-three years of age who was free from any history of syphilis or alcoholism. The patient suffered from a winter cough for two years, with slight dyspnea and some palpitation. Examination of the chest proved negative. Gradually symptoms of ataxia developed, of which the most prominent was excrutiating pain through the thighs and legs. The patient finally died after two or three severe coughing spells. At the post-mortem an aneurism extending from the lower part of the thoracic arch down to the middle of the thoracic aorta was found, which had eroded the thoracic vertebræ deeply and had ruptured, the blood escaping into the mediastinal cellular tissue in front of and around the sac. The two interesting features of the case are, the complete absence of any symptoms or signs of aneurism on the one hand and the associated locomotor ataxia on the other. Dr. Hughes believes this association was accidental, "though the possibility remains that the cord lesion may have been the direct result of the irritation of the aneurism."

Another interesting case, also reported by Dr. Hughes, was "Septic Peritonitis Following Inflammation of the Uterus Consequent on Cancer." This occurred in a woman seventy-two years old, who suffered from cancer

of the rectum for two years and then suddenly developed a septic peritonitis which was very rapidly followed by death. At the post-mortem the abdomen was found to be filled with pus, and the coils of intestines were covered and glued together with lymph. The uterus was large and flabby and its mucous membrane congested and in places almost polypoid. In the lower part of the rectum was an extensive cancer which involved not only the vagina but also the cervical portion of the uterus. This cancer tissue was sloughing extensively. There was no cancer of the body of the uterus. Before death the peritonitis was thought to be due to the direct infection from the rectum, but Dr. Hughes believes it occurred as follows: The cancer had occluded the uterine os and by irritation had caused hypersecretion from the uterine mucous membrane and distention. Then breaking down of the cancer mass had introduced into the uterus infecting germs from the rectum with consequent septic inflammation, local destruction of the uterine wall and general peritonitis.

Commencement day for the University of Pennsylvania will be June 15th, the latest of any of the colleges, and this spring will celebrate the 125th commencement day of the Medical Department. Jefferson Medical College is to have its commencement the 15th of May, and in the evening the annual banquet of the Alumni Association will be held.

Judge Audenried roundly scored the guilty physician when he decided last week that a charitable hospital could not be made to suffer for an alleged unauthorized autopsy by its officers or employes. The decision was given in the case of Alice Hanmore, who brought suit to recover damages from the German Hospital for the alleged mutilation of her dead mother's body. The mother was taken to the hospital on January 28, 1897, and died two days later from apoplexy. The plaintiff contended that the hospital authorities delayed surrendering the body to her, and the next day an undertaker whom she sent to the hospital for the body found that a post-mortem had been performed by the hospital physicians without authority, and the body badly mutilated. Judge Audenried characterized the action of the hospital physicians as outrageous, but said that under the laws of this State, in his opinion, a verdict for the plaintiff could not be sustained.

To the many who volunteered their services as nurses to the Medico-Chirurgical Hospital last fall, when its own staff was insufficient to care for the sick soldiers, last Wednesday was a gala day, for public exercises were held at the Broad Street Theatre, at which Mayor Ashbridge conferred certificates of honor upon them. He thanked the volunteer nurses in a few brief remarks and was followed by Surgeon-General Shoemaker, who especially commended Mrs. Katharine A. Taylor, the directress of the Nurses' Training School.

The Woman's Medical College has appealed to the Mayor for the reinstatement of Dr. Florence Van Gasken, who is one of the City Assistant Medical Inspectors dropped from the list. He replied that the dismissal was for the good of the service and neither sex nor politics had influenced him and that the matter must be considered closed. He said also that in the near future two or three additional inspectors will be dropped.

Governor Stone last week appointed Dr. Henry D. Heller of Northampton County, Quarantine Physician for the Port of Philadelphia, to succeed Dr. Henry C. Boenning.

Two Philadelphia Physicians have been honored this week, Dr. Edgar F. Smith, Professor of Chemistry at the University, by being elected a member of the National Academy of Science, and Dr. Edward P. Davis, Professor of Obstetrics at Jefferson Medical College, by being offered the Chair of Obstetrics and Gynecology at Rush Medical College, Chicago, which he declined.

The total number of new cases of contagious diseases occurring in Philadelphia during the week ending April 29th was 308, reported as follows: Diphtheria, 46 cases with 14 deaths; scarlet fever, 44 cases with 5 deaths; typhoid fever, 218 cases with 37 deaths.

MEDICAL MATTERS IN CHICAGO.

[From Our Special Correspondent.]

VORTICOSE VEINS—SYNCHYSIS SCINTILLANS—EMBOLISM OF THE CENTRAL ARTERY — FURTHER BACTERIAL EXAMINATIONS ILLUSTRATING THE PROTEAN MANIFESTATIONS OF THE CANON-PFEIFFER BACILLUS—COMPETITIVE EXAMINATIONS FOR INTERNES AT THE COOK COUNTY HOSPITAL — QUARTERLY MEETING OF THE STATE BOARD OF HEALTH.

CHICAGO, May 1, 1899.

AT the April meeting of the Chicago Ophthalmological and Otological Society, Dr. Charles H. Beard presented a case of vorticose veins which was remarkable for two reasons: First, owing to lack of choroidal and retinal pigment and thinness of the chorio-capillaries, the venæ vorticosæ of both eyes being clearly visible, and second, because of the number of these vorticose veins. Most works on ophthalmology, in describing the anatomy of the globe, state that these venous trunks are four in number. In dissections of the eyeball the speaker had more than once counted as many as seven. In each eye of the little Italian lad whom he exhibited, exactly nine such vortices could be clearly seen with the ophthalmoscope.

At the same meeting Dr. Lyman Ware reported an interesting case of synchysis scintillans, or sparkling synchysis. Dr. C. P. Pinckard has seen three or four cases of synchysis scintillans in which there were larger pieces of cholesterin than in the case reported by Dr. Ware. Dr. William T. Montgomery had also seen a well marked case. He also found the vitreous full of beautiful, gold-like scintillæ. Dr. Wheelock saw a case of synchysis scintillans in a man eighty years of age, it being associated with colloid degeneration.

Dr. Gradle presented a case of embolism of the central artery with preservation of some central vision.

Dr. Wynekoop of the Chicago Health Department, reports that out of 206 bacterial examinations made for diagnostic purposes during March he found the influenza organism in 57 cases. Of this number a clinical diagnosis of influenza had been made by the attending physician in 16 cases; no diagnosis had been attempted in 23 cases.

Of the remainder, 8 cases had been pronounced tonsillitis, 4 diphtheria, 1 each pneumonia, measles, "ulcerative tonsillitis," "tonsillitis or diphtheria," "scarlet fever and diphtheria," and "influenza and diphtheria." As illustrating the protean manifestations of the Canon-Pfeiffer bacillus Dr. Wynekoop reports the following case in detail: About February 10th, a boy of seven years was suddenly seized with a chill, which was of short duration. This was followed by headache and a temperature of 103.4° F. For a number of days prior to the chill there had been a condition closely resembling typhoid—general languor, loss of appetite, coated tongue, constipation, slight headache, nose-bleed, and a slight cough. The second day following the chill his temperature rose to 105.6° F., and the pulse to 160 beats per minute. There were delirium, stupor, and slight convulsions—symptoms suggestive of meningitis, but which could not be interpreted as such in the absence of any muscular rigidity. The temperature continued near 105° F. another twenty-four hours, when a slight erythema appeared over parts of the body. A consultation was called, but a positive diagnosis was not made. Scarlet fever with a delayed rash was suggested, and a hot pack ordered with the hope of bringing out the rash should this be the nature of the disease. The results were negative. A microscopic examination was then made of the contents of the throat, and the presence of great numbers of influenza bacilli was revealed. The child was now treated for influenza, with prompt and decided improvement, the temperature falling to 102°–101° F., and the pulse to 120–116. The cough continued, however, and became more harsh and distressing. No involvement of the lungs or pleura could be discovered at this time. During the remaining two weeks the symptoms resembled a typhoid condition. The temperature varied from 100° to 103° F. The cough became less pronounced. The intestines became greatly distended with gas; there was iliac tenderness, and stools of a typhoid character. The nervous symptoms, however, were not those of typhoid, the child being supersensitive to the touch, and exhibiting an abnormaliy active mental condition. A consulting physician was again called in, who made a probable diagnosis of typhoid fever complicated by influenza. Widal's test was made on several occasions, but at no time was a satisfactory reaction obtained. What seemed to be a partial reaction was obtained about the eighteenth day, but could not be obtained later. Bacteriologic examinations were made of the stools, and, after several attempts, the influenza organism was isolated, which would lead to the conclusion that this organism alone was responsible for the intestinal symptoms. On the tongue there were several small ulcers, and similar patches were noticed on the mucous membrane of the lips and cheeks. During the second week the Eustachian tubes became affected, and later the cavities of the middle ear. The otitis media ran the usual course. Pus examined at the time of the rupture of the tympanum contained the influenza bacillus, and cultures made from the discharge revealed the organism present in a pure condition. In cultures examined at a later period there were found streptococci. The intestinal symptoms disappeared during the third week and the stools became normal, but the temperature, which for several days had been in the neighborhood of 100° F., began to rise a little each day, and respiration became more rapid. This condition was found to be due to an involvement of the right pleura. Fluid began to accumulate, and soon the entire chest cavity of the affected side was filled. Aspiration demonstrated the presence of pus. Microscopic examinations were made of the aspirated fluid, and a few influenza organisms were observed. Small portions of the pus were transferred to blood serum and cultures obtained in which the bacillus in question was found in a pure state. It would be of interest to know whether this bacillus can produce a pathologic condition of the small intestines similar to that caused by the typhoid bacillus.

The result of the competitive examinations for internes at the Cook County Hospital was announced a day or two ago. Dr. Theodore Ticken, of the College of Physicians and Surgeons, secured the highest average of the thirteen candidates who passed the examination and were accepted. Of the other successful contestants, five were from Rush Medical College, and the others from the College of Physicians and Surgeons. These internes will serve for eighteen months at the County Hospital.

The State Board of Health held its quarterly meeting in this city April 28th, and passed rules covering the branches in which practitioners will be examined hereafter by the Board. This action is taken under the Medical Practice Bill which will go into effect in July. The Board will require a diploma from some first-class school of medicine, and the applicant will be examined in anatomy, physiology, chemistry, pathology, histology, obstetrics, diseases of women, therapeutics, practice of medicine, hygiene, and medical jurisprudence. Midwives will be examined in the same branches as at present—physiological chemistry, histology, pathology, and hygiene. It was decided to endorse a movement to establish a school for the instruction of local health officers at the State University.

THE CENTENNIAL CELEBRATION OF THE MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

[From a Special Correspondent.]

BALTIMORE, April 29, 1899.

NEVER in the history of medicine in Maryland has there been such a gathering of physicians as was witnessed here in Baltimore during the past few days. Over 1000 medical men from all parts of the State and also from other States, together with many ladies, assembled in McCoy Hall, Johns Hopkins University, to attend the opening meeting of the centennial of the Medical and Chirurgical Faculty of Maryland. Governor Lowndes of Maryland presided and Cardinal Gibbons, attired in his red robes, delivered the invocation. This was followed by the address of welcome delivered by Dr. S. C. Chew, President of the Faculty, in which he referred to striking events that marked the close of former centuries, and then

spoke of the remarkable scientific discoveries of this now passing era, particularly in the realm of medicine. After mentioning some of the most important discoveries of our time, such as vaccination, auscultation, the wonderful results of pathological study, and the revolutionizing discoveries of anesthetics and antiseptics, he closed by urging his fellow members to still greater faithfulness in the future.

Wednesday, Thursday, and Friday were given up to demonstrations, clinical lectures, and the visiting of various hospitals and asylums. In the afternoons scientific papers were read in McCoy Hall by especially invited physicians. As many of the demonstrations were conducted at the same time it will be impossible to speak of them all. One of the most interesting was given on Wednesday by Dr. Keirle on the Pasteur method in the diagnosis and treatment of rabies. This Pasteur Institute was established in Baltimore about two years ago by the College of Physicians and Surgeons, and many cases have been successfully treated. A clinic on gastrodiaphany by Dr. C. Urban Smith at the Baltimore University, also a surgical clinic by Dr. Biedler, a gynecological clinic by Dr. Sellman, and an eye and ear clinic by Dr. T. Cooke, Jr., were held.

Dr. Wm. Osler of the Johns Hopkins Hospital delivered a clinical lecture on cerebrospinal fever in which he said that there were three important points in the history of this disease: First, its discovery as a separate entity; second, the discovery by Quincke of the importance of lumbar puncture, and the third was the discovery of the specific organism. He said that the symptoms of this disease were singularly diverse; no disease shows such differences. Cases may last from six hours to six months. Fatal cases run out in six hours or less, while recurring or relapsing cases may drag along for six months or more. The diagnosis is not usually difficult when many cases prevail, but in isolated cases the diagnosis is usually very difficult, and it is not easy to differentiate this disease from any other form of meningitis. Quincke's work on lumbar puncture makes a diagnosis easier. To illustrate the disease a case was shown of a boy who was in the seventh week of the illness. This case illustrated an interesting point which was the curious intermission. He came in with a temperature of 104° F. He had been ill with all the characteristic features, such as headache, abrupt onset, vomiting, retracted head, much pain, and in addition there was a very marked erythematous characteristic rash. This was the sixteenth case of cerebrospinal fever that had been brought into the hospital. Lumbar puncture was performed on several occasions. Dr. Osler exhibited the fluid from the fifth puncture. There were about five ounces of turbid liquid. He stated that the patient began to improve rapidly after the puncture. Also that the turbidity of the fluid was a characteristic sign. The position of the patient was very characteristic; the slightest movement of the head was exceedingly painful, but he was comfortable as long as he remained still. Lumbar puncture had been performed on him seven times. The other case shown was also, in some respects, characteristic. It was a little like typhoid fever. The onset was very abrupt; he was seized with headache and vomiting as he was returning from work and he at once showed the characteristic symptoms, such as stiffening of the neck, head, and back, and a skin rash. The rash was a very curious one. Each spot was covered by a vesicle and there was a hemorrhage into the vesicle. Lumbar puncture was performed the next day after admission and the specific organism was found. The patient presented an almost characteristic typhoid condition. Still there were differences which would not deceive the clinician. The head and neck were rigid, which is not common in typhoid fever and the diplococcus was found. The patient was in the third week of the disease and responded to questions, but his consciousness was often benumbed. There are different forms of meningitis. The serum from the puncture must be carefully studied bacteriologically. Out of twenty-nine cases with careful bacteriological study, eight were tuberculous meningitis, in eight the pyogenic organisms were present, in eight pneumococci were found, and there were five in which the characteristic diplococcus was present. These are the four different varieties of meningitis. There are certain marked differences between these four kinds. The onset of cerebrospinal fever is different from that of the streptococcic or tuberculous variety. Soon after the onset there is a pathognomonic skin rash which is not seen in other forms of meningitis. It is either an erythema, a purpura, or a herpes, and the latter is more frequent. The examination of the blood has not yielded good results. Lumbar puncture is of the most importance, not only as tending to a cure, but also to make a diagnosis sure. It is done at about the second, third, or fourth lumbar interspace and the needle is directed upward while the patient is bent forward.

Dr. William S. Thayer delivered a clinical lecture on "The New Researches on Malaria." (This will appear in full in a later issue of the MEDICAL NEWS).

Dr. Wm. S. Halsted then exhibited some cases of hernia, on which he had operated and spoke of his method, and he also showed some cases of mammary cancer, in which the breast had been removed, and explained also his method of cleaning out the axilla and removing much of the pectoral muscle. Dr. Howard A. Kelly gave a very skilful demonstration of the examination of the rectal mucous membrane and of a large part of the lower intestinal tract by the use of a rectoscope. He also demonstrated, very beautifully, the ease with which he examined the female bladder and catheterized the ureters. He put the woman in the extreme knee-elbow position, and let air into the vagina, otherwise the bladder would be ballooned. Then he put a little cocain into the urethra and gently dilated with a bulb passed inside of a cystoscope. After the entrance into the urethra was made the bulb was withdrawn and the cystoscope passed in, and the bladder at once was plainly seen. The inside could be studied on all sides, the residual urine seen and withdrawn. By turning the cystoscope to one side or the other the entrance of the ureters could be seen, and either one catheterized at will.

In the afternoon Dr. Herman Knapp of New York read

a paper on "Some Landmarks in the History of Ophthalmology." Drs. Janeway, Alexander, and Edgar were unable to come, but in their place Dr. Wm. H. Welch reviewed, in a most interesting manner, the collection of medical books on exhibition in the hall, the oldest being a photograph of the Ebers papyrus, dating from about 2000 B. C. Dr. George Ben Johnston of Richmond read a paper on "How Far Myomectomy Is to Supplant Hysterectomy," in which he said that in treating female diseases there was danger in being so conservative that one might be radical. There was no use in trying to preserve organs that had become useless, but that of course the age, the nature of the malady, and the extent of the lesion had to be considered. In the evening Dr. W. W. Keen of Philadelphia delivered the annual oration, his subject being "The Debt of the Public to the Profession." Dr. Keen reviewed the whole field of medicine during this century, and enumerated most of the terrible diseases from which the whole civilized world so frequently suffered, and what the remarkable discoveries in medical science had done to protect society from these terrors. The plague, cholera, typhus and yellow fever, and smallpox were diseases enlarged upon, and the contrast between present and former times compared. The great discoveries of anesthetics and antiseptics were commented upon, and also the tremendous addition to science through pathological study. In return for these gifts Dr. Keen said that the profession might well ask the public for support of the hospitals, libraries, and laboratories to aid in this great work for humanity. On Thursday morning a surgical clinic at the University of Maryland was held by Dr. Tiffany, a medical clinic by Dr. I. E. Atkinson, a demonstration of abdominal section by Dr. Ashby. The electrical illumination of the stomach was demonstrated by Dr. J. C. Hemmeter, who also later explained his method of intubating the duodenum. The tiny electric light around which cool water is kept flowing is swallowed by the patient to be examined, he having first swallowed some ice water to still further cool the stomach. Through the abdominal walls the tiny light could be seen and the size and position of the stomach could be mapped out. The most practical use so far, is diagnosing cancerous and other abnormal growths in the stomach. At the Baltimore Medical College Dr. Robert W. Johnson explained his proposed method of turning off the carotids in operations on the head and neck. He has as yet only tried this experiment on a dog, and the object is to show the carotid could be cut off temporarily while operating on the parts supplied by that vessel. His method is to lightly pass a ligature around the carotid without tying it, then to fasten the ligature together to form a knot. The knot is caught in a slit made in a small stick of wood which the assistant holds. As the stick is raised the blood is cut off. In the afternoon at the scientific meeting, papers were read by Dr. Jacobi on "European Medicine about 1799;" by Dr. E. H. Bradford of Boston, on "A Study of the Human Gait," and by Dr. H. C. Wood of Philadelphia, on "Nostrums, the Profession, and the Law." In the evening the annual dinner of the faculty was held. On Friday a demonstration of orthopedic cases and methods of treatment was given at the hospital for the relief of deformed and crippled children by Dr. R. T. Taylor. Many of the visitors spent the afternoon at the Sheppard and Enoch Pratt Hospital, where they were entertained at luncheon.

Luncheon was also served each day in the hall of the faculty, and a number of private dinners were given, and also several receptions. At the banquet on Thursday evening, Surgeon-General Sternberg was present, and also Dr. Jacobi of New York, Drs. Wood and Tyson of Philadelphia, Dr. Geo. Benj. Johnston of Richmond, and Dr. W. W. Johnson of Washington. A very unique and interesting collection of portraits, relics, books, diplomas, etc., was placed in McCoy Hall and excited much attention.

At the business meeting over 100 new members were elected.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

TWO CASES OF SCLERODERMA—ATROPHY OF INFANTS—REMARKABLY LOW MORTALITY IN A HOSPITAL FOR INFANTS—PAROXYSMAL HEMOGLOBINURIA—EARLY DIAGNOSIS OF CHOLELITHIASIS—THE PORTION OF THE LUNG AFFECTED IN THE BEGINNING OF PULMONARY TUBERCULOSIS.

At the Berlin Medical Society, March 15th, Bloch showed a boy, aged six years, who had always been healthy until six months previous. Then his mother noticed that the skin of the right leg began to assume a peculiar dry, shrivelled appearance, the process extending until the thigh from the anterior superior spine of the ilium over the sartorius muscle and the leg on both sides as far down as the malleoli presented the typical characteristics of scleroderma. The kidneys, nervous system, thyroid gland, and other organs of the child seemed to be normal. There was besides the cutaneous change, a certain amount of muscular atrophy especially of the quadriceps, tibialis anticus, and the peronei of the affected limb; also, an atrophy of the tibia, which though slight was, nevertheless, demonstrable by means of the Röntgen-rays. There was a diminution of the electrical excitability of the affected muscles for both faradic and galvanic currents. On account of the loss of elasticity of the skin, and the attachment of that portion overlying the tibia to that bone, motions of the joints were somewhat limited. There was no change in sensibility. It is worth mentioning that since birth there had been a vitiligo patch behind the right ear which, in the last few months had increased in size, but did not show the characteristics of scleroderma. Within eight days there had developed under the eyes of the physician a sclerodermic area as a big as a dime over the seventh cervical vertebra. The treatment consisted in baths, galvanism, massage, and the use of salol, as recently advised by Phillippson of Hamburg.

Another patient exhibiting scleroderma was presented by Adler. She was ten years old, and well developed. Four years before, after a fall, bluish patches appeared in the skin about the left knee. Simultaneously there were gastric disturbances, loss of appetite, and vomiting, symp-

toms which have been mentioned as associated with the development of scleroderma. The bluish patches spread over the upper and lower leg, and gradually whitish areas appeared with retraction of the skin and the usual signs of scleroderma. At the time of exhibit the child had an atrophy of the left limb, both muscular and osseous. While no measures are at hand to stop this peculiar process it is possible to prevent contractions of the muscles, adhesions between the skin and the underlying bones, and excessive muscular atrophy by the systematic use of electricity, mechanical exercises, and baths, while the strength is kept up by strychnin, etc.

At the Union for Internal Medicine, March 20th, BAGINSKY spoke of atrophy of infants. Most of these patients have suffered from dyspepsia. In spite of abundant food, they grow thinner and thinner. Opinions have differed as to the cause of the atrophy. By examination of the stools he had discovered that 52.7 per cent. of the nitrogen of the food passed unused through the intestine. This indicated a severe disturbance of the intestinal absorption. Microscopic examination of portions of the intestinal mucous membrane, obtained one or at most two hours after death, showed that portions of it were useless for purposes of absorption, either because the glands of Lieberkühn had grown out into the intestinal cavity, or because such overgrown portions had sloughed away, leaving those parts devoid of absorbing mucous membrane or shrunken in cicatricial atrophy. The theories which have been advanced have not satisfactorily explained this condition. There was nothing in the urine nor in the organs to indicate an auto-intoxication. The author rejected Czerny's theory of poisoning by acid, because the respiration was not of a type to correspond. Examination of the blood failed to show the presence of microorganisms, and so the theory of septic infection rests on an unproved assumption. Treatment should consist in a change of diet and care, by which a cure may often be effected. Even the best hospital treatment leaves much to be desired.

HEUBNER, who some years ago made an examination of the intestines of fourteen patients dying from the cause mentioned, had failed to find the lesions mentioned by Baginsky. He queried if the meteorismus of the intestine had not so flattened out the mucosa as to lead to the impression that it was absent in places. The theory of Czerny is not so hastily to be pushed aside. He found the excretion of ammonia in the urine several times above normal, although not as great as reported by Czerny.

BERNARD said that the clinical picture of atrophy of infants is a varied one. The hypoplasia of the parenchyma of the glands may be either inherited or acquired by false diet. He had seen the intestinal lesions mentioned by Baginsky.

FINKELSTEIN defined the atrophy as a deep-reaching disturbance of the nutritive action. In the majority of instances there was a chronic poisoning due to auto-intoxication. There may be specific producers of poisons which lodge in the intestines. This often occurs in hospitals where originally healthy children slowly become marasmic. The periodic outbreaks of this affection, causing the death of numbers of children in a short time, points to the specific nature of the infection.

BAGINSKY expressed himself strongly against the idea that an infection is the cause of hospitalism. The blame rests much rather on the monotony of the diet and care.

The infants' hospital in Budapest which has been conducted by SZLARDI for twelve years boasts, with reason, that it has the lowest mortality of any infants' hospital. From September 1, 1897, to September 1, 1898, 1325 infants were cared for, with a loss of only 49, or 3.6 per cent. This mortality was 10.9 per cent. of those who were sick. Diseases of the stomach and intestine formed one-third of all cases of illness. The mortality of the babies sick with these troubles was 7.3 per cent. These low figures are reached by the custom, to which there were few exceptions, of admitting the mother and child together. During the past twelve years there has been only one severe outbreak of gastro-enteritis. The entrance and discharge of children were suspended for four days, the ill babies were isolated, and the hands of the nurses and the linen thoroughly disinfected. The epidemic was quickly at an end.

At the Imperio-Royal Society of Physicians of Vienna, March 24th, NEUMANN showed a patient who had been under treatment for recent syphilis four years before. Since that time there had been many recurrences of syphilides. One year ago there was fever and the passage of brownish urine. Such attacks recurred at first at long intervals, but later every day or so. The urine was found to contain hemoglobin, but no red blood-corpuscles. After three or four hours the normal appearance of the urine returned and the general symptoms disappeared. The causes of paroxysmal hemoglobinuria are high or low temperatures, poisons (potassium chlorid), malaria, and long-continued syphilis. This last cause explains the cures that have been reported after the use of antisyphilitic remedies.

POLLATSCHEK spoke of early diagnosis of cholelithiasis. Biliary colic is not always due to gall-stones, but may arise from inflammatory processes. Even in severe cases icterus may be wanting. Cardialgia is the commonest mistaken diagnosis. In the latter swelling of the liver is absent. This may be detected by the method of palpation recommended by the speaker, in which the four fingers of the left hand are placed lightly over the edge of the liver, while the necessary pressure is given to them by the four fingers of the right hand, placed upon their dorsal surfaces. The sensitiveness of the finger-tips is much greater if there is no muscular contraction in the examining hand. Cholelithiasis affects the digestion very little. In cardialgia disturbances of digestion are common. Colic, due to gall-stones, is almost always accompanied by severe peritonitic symptoms. Cholelithiasis patients usually bear well even large amounts of hot Carlsbad water.

At the Medical Society of Leipzig, February 21st, BIRCH-HIRSCHFELD spoke of the beginning of pulmonary tuberculosis. He had examined the lungs of thirty-four persons, supposedly healthy, who died suddenly by accident, but in whom there was a beginning

tuberculosis. The widespread idea that phthisis begins in a caseous lobular pneumonia found no support in the results. An interstitial formation of tubercles was also the rare exception. In the vast majority of the cases the process began as a subepithelial one in a bronchus of middle size, the peribronchial tissus being secondarily affected. By this means the lumen of the bronchiole is obliterated and the portion of lung beyond becomes atelectatic. At this stage a cure is possible by encapsulation of the process and cicatrization of the distal pulmonary tissue. If the infiltrated part of the bronchus breaks down, as is probably most likely to follow in mixed infection, the tubercle bacilli with the reopening of the lumen of the bronchus may be scattered in both directions. Hence the occurrence of initial hemoptysis is an unfavorable symptom, as showing the breaking of the mucous membrane. The portion of the lung especially favorable for the lodging of the tubercle bacilli is the posterior portion of the apex and the adjoining subapical region. This is supplied by the posterior subapical branch of the bronchus and is a part of the lung which, at puberty, is most cramped in its growth, and is, therefore, often imperfect. As is well known the right lung is more apt to suffer than the left in primary tuberculosis. According to Von Hasse this portion of the lung moves almost none at all in respiration. In the consideration of prophylaxis and therapy of pulmonary tuberculosis a greater attention must be paid to asepsis of the inspired air and to pulmonary gymnastics than has as yet been done.

SOCIETY PROCEEDINGS.

THE GERMAN SURGICAL SOCIETY.

Twenty-eighth Annual Meeting, Held at Berlin, April 5 to 8, 1899.

[Specially Reported for the MEDICAL NEWS.]

FIRST DAY, APRIL 5TH.

THE Congress was opened by PROFESSOR HAHN, the President.

KOENIG of Berlin opened the medical discussion with a paper on "Foreign Bodies in Joints." He said that the trouble is almost always confined to the young and is more frequent in boys than girls. The knee- and elbow-joints are particularly affected. The exciting cause is usually traumatism to a joint, the seat of previous inflammation. The separated particle is part of the bone or cartilage eroded by the inflammatory process and loosened by the injury. The symptoms are usually manifested by violent pains in the performance of certain movements, and a subjective "crack" in the joint. These bodies are generally to be seen by the Röntgen-rays.

VON BERGMANN of Berlin said that in his experience the disease is not confined to youth but is comparatively frequent in old people, subjects of rheumatic or other joint diseases.

In a paper on "Surgery of the Brain" KOCHER of Berne described some successful operations for epilepsy. He recommends operation in cases following wounds or tumors, but thinks it not worth while to remove scars of the cortex when they are found. He does not return the trephined bone to its place for fear of subsequent intracranial pressure.

VON BERGMANN said that he usually returns the bone to its place and does not believe there is need to fear intracranial pressure. He reported the case of an epileptic girl with a congenital defect in the skull 14 cm. long by 8 cm. wide. He closed this opening by a plastic operation, taking a periosteal flap from a neighboring region. The epilepsy disappeared. He said that well-developed cases of epilepsy give little hope of cure by operation. He showed a man who was shot in the head in 1895. Epilepsy developed three months after, but though he operated he could not find the bullet. Two years later an abscess developed in the brain which was opened and healed. Subsequent to the second operation he had no attacks until lately. They have now appeared again, probably caused by the presence of the bullet.

GUSSENBAUER of Vienna said that he found the removal of cortical scars successful, and even when absolute and permanent cure did not follow there was at least relief for a long time.

KROENLEIN of Zurich spoke especially on wounds of the brain by small-caliber bullets. He related a case of attempted suicide in which the ball perforated the skull anteriorly and posteriorly, probably running along the base of the skull, with no symptoms following it. Another case of suicide was detailed in which the whole top of the skull was blown off and the entire unbroken cerebrum thrown out.

BARKER of London told of a suicidal attempt in a Russian. He shot himself twice in the mouth, then walked to the police station and announced it. The bullets were not disturbed until some time later when epilepsy began to develop. The bullets were located by the Röntgen-rays and removed. A temporary hemiplegia followed the operation but passed off. The epilepsy was cured.

VON BECK of Karlsrühe detailed eight cases of epilepsy in which operation was performed by Czerny or himself. He, too, has a dread of intracranial pressure and does not believe in replacing the trephined bone.

LANENSTEIN of Hamburg described a severe case of epilepsy in a man, aged twenty-five years, with innumerable attacks, paralysis, and beginning blindness. On operating no lesion was found, yet marked improvement followed. He considered the improvement due to a relief of pressure.

"Resection of the Spinal Column for Spondylitic Paralysis" was the title of a paper by TRENDELENBURG of Leipsic, who described eight cases, all with successful results. The operation consisted in raising a flap of skin over the prominence and chiselling through the lamina. The posterior bony wall of the canal was removed on both sides of the prominence to a point where the dura did not press against the bone. The paralysis became more marked temporarily after the operation and began to disappear only after five or six months. In acute stages of inflammation the operation is contraindicated.

TILLMANN of Griefswald spoke on "Concussion of the Brain." He described an apparatus constructed to imitate the conditions present in the skull, and by it was able to find the cause for concussions. He claimed that it is only a matter of physics and is due to the difference in the specific weights of the gray and white substance, the blood, and the surrounding fluid.

GUSSENBAUER said that Professor Tillmann in forming his theory had left out of consideration the important fact that the blood and the cerebral fluid are under different degrees of pressure, and gave as a cause for the throwing out of the brain in Krönlein's case the hydraulic pressure of the intermeningeal fluid which was suddenly and forcibly thrown underneath the brain.

"Bacteria and Wounds" was the title of a paper by FRIEDRICH of Leipsic. He said that the danger of infection from bacteria floating in the air is overestimated; that even when they fall into the wound there is little danger since it requires eight hours (about) for them to develop their reproductive functions, and that the reaction in the tissues taking place almost at once is always sufficient to overcome any few so contaminating the wound. He claimed bacteria gain entrance to the circulation only when under pressure.

SENGER of Erefeld spoke on disinfection of the skin. He concluded that it is practically impossible, and that operators are only safe when they use, for their hands, an antiseptic that does not lightly or soon lose its effect.

SCHNITZLER of Vienna claimed that micro-organisms existing latently in an individual increase their virulence under the action of a predisposing cause such as general debility.

"Noma and Its Etiology" was the title of the next paper, read by PERTHES of Leipsic. He claimed the cause to be a bacterium similar to the ray-fungus, but that a favorable soil is necessary for its action, and that on this account the disease cannot be given to other animals.

LOEWENHARDT of Breslau then read a paper on "Epidemic Aleppo Boils" and described some interesting cases of this disfiguring disease in participants of the late royal tour through Palestine. He exhibited wax models and microscopical preparations of the lesions. In many cases the disease is limited to the face, running a severe course with marked constitutional disturbance, yet invariably the ulcers heal spontaneously. The prognosis, therefore, is favorable.

SECOND DAY, APRIL 6TH.

HOFFA of Würzburg read a paper on "The Treatment of Congenital Dislocation of the Hip." He considered the two methods of reduction, namely by cutting down on the joint, and the bloodless method, which he described as the modern and, when possible, the preferable way. This latter is applicable only to about the age of ten. He reported a series of 127 cases, most of which were controlled by means of the Röntgen-rays. He exhibited a number of cured patients.

LORENZ of Vienna confirmed Hoffa as to the age up to which success might be hoped for by the bloodless method, and added that in cases of double congenital dislocation, two or three years might be taken off. The younger the patient the better the prognosis; after a certain age a stiff joint is the most to be hoped for. In the last three years he has performed the bloodless operation 360 times, in the last third of the cases the result being controlled by the Röntgen-rays. He advised strongly the bloodless method, and reiterated what Hoffa had said, that if it fails the other remains to be done anyhow.

DELHMANN of Breslau exhibited a skiagraph of a hip-joint on which the bloodless operation had been performed two years ago. There was a new bony outgrowth on the margin of the acetabulum, which it seemed would tend to hold the head of the femur better in place.

MIKULICZ of Breslau said that the Röntgen-rays have taught him that the anatomical result is not always as perfect as he previously thought it was. He considers all the ordinary methods of performing the bloodless operation of equal value and believes the non-success in some cases to be due, not to the method employed, but to the peculiarity of the case. In his opinion many of the dislocations take place during birth, and these are the easiest to reduce. In the precongenital conditions the difficulty lies usually in some peculiarity of the joint capsule. In the case of very young children a specially designed apparatus applied to the part often brings about the desired result. In other points he agreed with Hoffa and Lorenz.

Delhmann, Heusner, Höftmann, and Lange exhibited mechanical appliances to aid the reduction by the bloodless method, and to facilitate the application of the bandage.

NARATH of Utrecht reported six cases of fracture of the femur coming under his observation, caused by the operation.

BENDA of Berlin reported and detailed three cases of "General Miliary Tuberculosis in Association with Tuberculosis of Bone." KUETTNER of Tübingen reported cases of tubercular osteomyelitis of the long bones, on account of the rarity of this form in comparison with acute osteomyelitis. BUENGNER of Hanan spoke on tuberculosis of the symphysis pubis and showed the analogy between that and tubercular sacroiliac synchondrositis. The affection is more common in females than males, and is seen in adult life. It may attack one or both bones. The manner of spreading and the form that the purulent collection assumes has caused it more than once to be diagnosed as hernia. SUDECK of Hamburg considered the anatomy and etiology of coxa vara. The majority of cases he thinks due to frequently repeated slight traumatisms which take effect on young growing bone more easily than on fully developed bone. He also reported a traumatic case of bending of the neck of the femur.

In a paper, entitled "Surgery of the Gastro-intestinal Tract," KROENLEIN of Zurich reported a case of traumatic pyloric ulcer. The man, forty-eight years old, and up to this time perfectly healthy, received a violent blow over the stomach. For months he suffered with excruciating pains in the stomach and frequent attacks of vomiting. On account of the little nourishment he was able to take and the consequent loss of weight laparotomy was performed.

A large ulcer completely surrounding the pylorus was found. This end of the stomach was resected, the patient recovering fully. The speaker called attention to the importance of the case from its medico-legal accident aspect.

REHN of Frankfort a/M. reported a very singular case. He operated on a twenty-five-year-old servant-girl for severe peritonitis, in which it was necessary to resect part of the intestine. The operation was successful and the patient recovered and went about her work. Four months later she began to complain of pain in the abdomen and constipation; finally symptoms of complete intestinal obstruction came on and a second laparotomy was performed. Within the intestine causing the obstruction was a gauze compress. That it had been accidentally left behind at the first operation and had lain there for four months without a symptom was highly improbable, yet only one other explanation remained and that was that she had swallowed it! He also exhibited a preparation of an umbilical hernia, the contained intestine having in it a gall-stone.

THIRD DAY, APRIL 7TH.

LEXER of Berlin opened the proceedings by reading a paper on "Surgery of the Gastro-intestinal Tract," and showed sections of a persistent omphalo-mesenteric duct which he had found lined with a mucous membrane exactly similar to that at the pyloric end of the stomach.

KOENIG, JR., of Berlin, reported a case in which laparotomy had been performed three times, the first time for ulcer of the stomach with persistent hematemesis, the ulcer situated near the pyloric orifice being removed. The resulting cicatrix caused obstruction and a second laparotomy with gastro-intestinal anastomosis was performed. Obstructive symptoms again manifested themselves and the case coming under his care, he found on operation a stricture of the new pylorus. The stomach was once more resected and a new gastro-intestinal anastomosis performed. The patient, whom he exhibited, had completely recovered.

BRAUN of Göttingen reported a case of repeated laparotomy for perforation of a duodenal ulcer eleven months subsequent to a gastro-intestinal anastomosis. He considered the cause of the ulcer to be irritation due to overflow of the acid gastric juice. Hahn and Kausch of Berlin each reported a similar case. Von Beck of Karlsruhe reported a case of gastro-intestinal anastomosis by means of the Murphy button. Three months later violent epigastric pain developed and on opening the abdomen the button was found in exactly the same position in which it had previously been placed. He also reported a case of complete intestinal obstruction in which on laparotomy the cause was found to be a drinking-glass that had been forced high up into the rectum. Koerte of Berlin detailed a case of gastric ulcer of traumatic origin, similar to that reported by Krönlin. He also reported seven cases of intestinal obstruction by gall-stones. In the majority of them the diagnosis was determined before operation. Hadlich described a unique case of intestinal obstruction in which the intestine was found completely divided and ending in two blind pouches. The separation had taken place gradually and was the result of new-formed tissue bands. Gersuny of Vienna described peritoneal adhesions which are frequent on the sigmoid flexure and can lead to considerable disturbance. They are easily seen, though rarely found, because not sought for. They owe their origin probably to small hemorrhages into the serous membrane and it is not unlikely that similar adhesions may form on the appendix causing obliteration or stricture of its lumen.

GRASER of Erlangen spoke on acquired diverticula of the intestine. Numerous investigations, especially after injection of the intestinal vessels, lead him to conclude that they are the result of heart insufficiency. They are especially frequent on the sigmoid flexure, the loose areolar tissue of which predisposes to their formation. Persistence of these diverticula may lead to acute inflammation and the production of peritoneal adhesions. Hausemann of Berlin said he did not believe cardiac failure to be the cause of these diverticula. He believes their formation to be due to a congenital tendency in certain individuals, which predisposition is still inexplicable.

RENVERS of Berlin then read a paper on "Appendicitis," treating the affection from a clinical standpoint. He said that it might occur in the course of an ordinary intestinal catarrh and the patient recover without surgical interference. He believed it possible, therefore, to treat some cases medicinally and expectantly. Even suppurative conditions, he contended, might occasionally under very favorable circumstances cure spontaneously, though the prognosis without operation is unfavorable. Relapses indicate operation.

EWALD of Berlin described the masked chronic form. He said the symptoms are indefinite, oftentimes rather general, and only with difficulty can a proper diagnosis be made. Here it is especially difficult to decide on operation, the condition apparently standing on the boundary line between the clinician and the surgeon.

SONNENBURG of Berlin spoke on the necessity and time of operation. Chronic cases producing protracted ill-health, or acute cases in which the inflammatory symptoms do not disappear by the fifth day require operation. In suppurative cases two operations come into consideration: the opening and drawing of the pus-sac, an operawhich is not dangerous but leaving a possibility of return of the symptoms, or the complete removal of the appendix, which is more serious but is radical in its effect. He recommends the latter operation in cases in which all the arrangements for the operation have been perfected. The necessity for operation during intervals between attacks depends on the particular seriousness and conditions of individuals.

RIESE reported several cases in which patients developed disease of the kidney in the course of typhlitis, with a probable causal connection. DUHRRSEN of Berlin spoke on simultaneous disease of the appendix and the female pelvic organs.

GUSSENBAUER suggested that the name offered by Nothnagel be employed instead of appendicitis, namely, "scolicoiditis." ROTTER of Berlin said that Sonnenburg had expressed the opinion of the majority of German sur-

geons in his statement of the time for operation. But he did not believe that the removal of the appendix is indicated except in those cases in which its removal could be accomplished without too much difficulty. KUEMMELL of Hamburg said that he does not operate at all in light cases, in moderately severe cases only upon a secondary rise of temperature, and in general peritonitis always and immediately. He believes the pulse to be the best indicator of the condition. REHAR of Frankfort a/M. confirmed Sonnenberg on practically all points. KOERTE of Berlin remarked that Sonnenburg was not so quick with the knife as he formerly advised.

"Bowing of the Neck of the Femur" was the title of a paper by SPRENGEL, who presented two patients, one before, the other after operation, the condition in both being due to traumatism. He agreed with Kocher that the condition is due to a loosening of the epiphyseal cartilage, and exhibited skiagraphs and two preparations demonstrating this. He mentioned the medico-legal importance of differentiation between boring due to injury and that due to constitutional conditions. The number of operations for the conditions have been so far too small to draw conclusions from.

KOCHER of Berne mentioned the possibility of either a gradual or sudden boring. HENLE of Breslau reported favorable results in four cases in which the patients had been operated on in Miculicz's clinic.

BUNGE of Königsberg read a paper on "Treatment of Old Dislocations of the Elbow-joint." He advised against resection. He claimed excellent results in the Königsberg clinic without it. The joint is freely laid open and all soft tissues preventing reduction are cut through until reduction is possible. He has frequently found small pieces of bone broken off at the time of the dislocation to be the interfering objects; frequently, too, transverse fractures of the lower end of the humerus which had united obliquely. To prevent the formation of adhesions passive motion is instituted early and kept up a long time.

NEUBER of Kiel, in a paper on "Club-Foot," said that in cases in which the tendo-Achilles is to be cut he had given up the old procedure of subcutaneous division and now did it through an open wound. He thought he was better able to avoid secondary contraction.

WEHR of Lemberg read a paper on "Treatment of Heart-injuries," and detailed experiments on animals in which portions of the heart-wall were removed and the wound sutured. In the case of human beings he recommends a free opening of the chest by a skin and bone flap. Hemorrhage is to be controlled by the fingers.

FOURTH DAY—APRIL 8TH.

"Surgical Diseases of the Kidney" was the title of the first paper, read by WILMS of Leipsic. He spoke on mixed tumors of the kidney, but added little or nothing to our present knowledge. He explained their origin on Cohnheim's theory, but whether this misplaced tissue is capable of developing of its own accord, or requires something external to start it, he was unable to say. He mentioned the question of the mechanical theory of tumors, but no satisfactory conclusions were arrived at.

JORDEN of Heidelberg discussed the etiology of perinephritic suppuration. He said that it is usually the result of hemotogenous infection by pyogenic germs into the loose non-resistant tissue of that region, the microorganisms gaining entrance to the blood from a tonsillitis, a furuncle, or other seemingly innocent source. A frequent consequence of this perinephritic suppuration is suppuration in the kidney itself on account of the intimate connections between the vessels of the perinephritic tissue and kidney capsule. He reported a case of abscess of the kidney found on operation to be single. This was opened and drained, complete recovery following. During the course of the abscess the second kidney showed symptoms of nephritis, but as the patient recovered after operation these entirely disappeared. He also reported a somewhat similar case in which operation was not performed, and the abscess which was at first limited to the kidney infected the surrounding tissue. He, therefore, advised operation as soon as the diagnosis of abscess is made.

KROENLEIN of Zurich exhibited an interesting specimen of a cystic kidney removed from a pregnant woman without interfering with pregnancy. KUESTER of Marburg condemned the removal of a kidney for cystic degeneration because invariably after a shorter or longer period the disease attacks the other kidney. He thought it might be permissible to cut off a portion of the kidney but not more than that.

"Surgery of the Bladder" was the title of a paper by MODLINSKI of Moscow. He detailed his operation for complete removal of the bladder in cases of malignant growth, or when the bladder-wall is riddled with small tumors. He makes a new bladder from the lower part of the rectum.

VON MANEGOLDT of Dresden, in a paper on "Surgery of the Larynx," described his operation for laryngeal strictures and perforations caused by tubercular or syphilitic ulcers, and operative interference for tumors. To close a perforation or open up a stricture he transfers a piece of cartilage with its perichondrium from a costal cartilage. He detailed several successful cases.

BRAUN of Altona read a paper on "Skin-grafting." He said that after careful histological study of healed skin-grafts made after Krause's method, he found the principal constituents of the graft remaining, namely, the elastic and connective-tissue elements.

HENLE of Breslau confirmed Braun's findings from investigations on animals. VON ESMARCK of Kiel said that what has been called Krause's grafts had been described and used twenty years ago by Wolfe, an Englishman. KRAUSE contended that the transferrence of non-pediculated grafts had been carried out one hundred years ago by an Italian, but without much success. Now that he (Krause) instituted a successful method for preparing them, it was with justice that Mickulicz had designated them as Krause's grafts.

In a paper on "Skiagraphy of the Thorax" LEVY of Dorn insisted on the necessity of employing dry plates

twice poured in order to obtain good pictures; further, that the skiagraph should be taken during deep inspiration while the patient holds his breath.

Sultan of Göttingen claimed that the Murphy button is liable to cause perforation on account of its weight and that the absorbable buttons so far made are too rapidly absorbed. He presented a button in two parts, made of decalcified bone, joining together by a metal clasp and covered with rubber to prevent rapid absorption.

Hollaender of Berlin read a paper on "The Treatment of Lupus with Hot Air." He demonstrated some successful cases. He differentiated two forms of the disease, a rapid and a slow form.

During the afternoon session on the third day a ballot was cast for president for the next year. Professor von Bergmann of Berlin was elected.

REVIEWS.

International Clinics. A Quarterly of Clinical Lectures on Medicine, Surgery, etc., with specially prepared articles on Treatment and Drugs by professors and lecturers in the leading medical colleges of the United States, Germany, Austria, France, Great Britain, and Canada. Edited by Judson Daland, M.D., of Philadelphia; J. Mitchell Bruce, M.D., of London, and David W. Finlay of Aberdeen. Vol. IV., Series 8, 1899. Philadelphia: J. B. Lippincott Company.

This number of the "International Clinics" bears out very well its claim to an international character. We note clinics from Vienna, Berlin, Jena, Leipsic, Paris, London, Dundee, Aberdeen, Glasgow, and Edinburgh, as well as from various cities in this country. Dr. Thomas Oliver of Newcastle-on-Tyne (England) contributes an interesting clinic on scurvy and purpura. Despite general knowledge of its causation scurvy still sometimes develops even in patients of the better class, especially in children, and makes not infrequently a difficult diagnostic problem. Its relations to and differential diagnosis from purpura are very fully discussed. Dr. Oliver adopts Ralfe's explanation that scurvy is due to "some distinct alteration of the equilibrium between the inorganic and organic acids and bases in the blood whereby such neutral salts as chlorids become relatively increased at the expense of the alkaline salts or those alkaline salts become absolutely decreased."

From Professor Ziehen of Jena (Germany) there is a very suggestive clinic on the demonstration and significance of tendon-reflexes. He says, among other things, that "the absence of *any* tendon-reflex means a break in the nervous reflex arc on which it depends and hence means an organic lesion of some part of the nervous system." There is but one tendon-reflex in the arm according to him and this though usually called the triceps tendon-reflex is really an anconeus reflex. For reinforcement of tendon-reflexes where they seem to be absent Professor Ziehen suggests a cold bath before any prognosis or diagnosis is founded on their condition.

Professor Oppenheim of Berlin contributes a clinic on hemiplegia alternans inferior and hemiplegia alternans superior with two very striking illustrative cases. In the first case with deviation of the head to the right and eyes to the left (dissociate deviation of eyes and head) the lesion is in the upper (cephalic) portion of the pons. In the second case the left cerebral peduncle was affected.

Dr. A. Pearce Gould of London gives a very practical clinical account of his experience with Trendelenburg's method of treating varicose veins which he has applied in forty-three cases. The operation consists in the double ligature of the internal saphenous vein in the thigh. The procedure where Trendelenburg's sign is present is as satisfactory, Dr. Gould says, as it is simple of execution and free from ill effects.

Professor Rosenheim of Berlin, whose work on gastro-intestinal diseases is well known contributes a clinic on chronic constipation, in which he succeeds in making this threadbare subject interesting and almost says something new. The following quotation is suggestive of a certain iconoclastic spirit in the clinic: "Nothing is more absurd to my mind than the prejudice some physicians have as to the food their patients should not take; anything that disagrees with themselves their patients must not take; anything that tradition has set down as hard of digestion patients with gastro-intestinal trouble must avoid." Professor Rosenheim has had cases of indigestion with loss of appetite and constipation improve on sauerkraut, and he advocates the greatest dietetic liberty, each individual being a law unto himself.

The Pathology and Treatment of Sexual Impotence. By Victor G. Vecki, M.D. From the Author's Second German Edition, Revised and Rewritten. Philadelphia: W. B. Saunders, 1899.

According to the preface, this book produced in the original German "some commotion in the ranks of the young and old fogies, who were indignant that any one refused to worship their superannuated gods." The reason for this is, we suppose, certain statements under the physiology of the sexual act. Dr. Vecki does not accept the ordinary views as to the infrequency and insufficient vitality of spermatozoa after repeated coitus. A series of microscopic observations have shown him that in vigorous, healthy men coitus, after weeks of abstention from the act, is not accompanied by the ejaculation of seminal fluid teeming, as has been said, with abundant and lively spermatozoa, but that, on the contrary, they are comparatively rare, many show no manifestation of life, and others are by no means active. Repeated coitus is followed by an abundance of young, very active spermatozoa.

Observations on the fluid of seminal emissions, though often made within the hour after the event, rarely showed many spermatozoa, and the few present were, as a rule, not especially active. Spermatozoa seem to degenerate while in the seminal vesicles, and it is only after these are emptied that really active germinal particles are to be found in the seminal fluid. The importance of this

for certain forms of sterility is evident. This theory, too, gives a new biological significance to nocturnal emissions that occur normally in the continent. Nature is getting rid of germinal material that is no longer in proper condition to fulfil its function perfectly, not merely wasting, as has been taught, precious reproductive elements.

In the treatment of functional sexual impotence, Dr. Vecki has found suggestion and suspension of good service. The suspension treatment introduced by Matschutkowsky for tabetic patients is known frequently to have restored their sexual potency after it had disappeared for some time. Dr. Vecki has employed it with a certain success in simple impotence from other causes than spinal trouble. The suspension is made by means of the apparatus devised by Sayre for putting on the plaster jacket.

A TEXT-BOOK OF PATHOLOGY. By ALFRED STENGEL, M.D., Instructor in Clinical Medicine in the University of Pennsylvania. Eight hundred and forty-five pages, with 372 illustrations. Philadelphia: W. B. Saunders, 1899.

DR. STENGEL has succeeded in producing a work on pathology that will be found most helpful to the clinical pathologist. The author traverses the entire field, excepting the skin and special-sense organs. Part I. is devoted to general pathology, and here the etiology of disease, disorders of nutrition and metabolism, disturbances of the circulation of the blood, retrogressive processes, and inflammation and degeneration are taken up in succession, and given brief but clear and satisfactory consideration. The remaining chapters are devoted to progressive tissue changes, to bacteria, and diseases due to bacteria and parasites. The last two of these chapters are altogether the most satisfactory of this part of the book, and the author is to be congratulated on the clear and succinct way in which he has presented this subject.

The second part of the volume is concerned with special pathology, in which diseases of the various systems and tissues are taken up in succession. The chapters on diseases of the blood, the circulatory systems, and lymphatic tissues are particularly thorough, though brief, and up to date.

It may truthfully be said that this volume is everything that it pretends to be: A brief, trustworthy exposition of the practical side of pathology, put down in a straightforward way without redundancy of words or obscurity of thought. We congratulate the talented young author on the completion of such an enduring evidence of industry.

NOTES ON SURGERY FOR NURSES. By JOSEPH BELL, M.D., F.R.C.S., Edin., Consulting Surgeon to the Royal Infirmary. Fifth Edition. Edinburg: Oliver & Boyd, 1899.

IT is scarcely more than necessary to do more than call attention to the new edition of this excellent manual of instruction for nurses in the practice of surgery. The early appearance of the fifth so closely after the fourth edition, speaks for itself. The little book contains all that a nurse need know for the successful practice of surgical nursing, and excels in this respect that it does not contain a mass of useless material which is too frequently a part of hand-books written for trained nurses. An appendix on the relation of nurses to the general public has been added to the present edition.

THE TREATMENT OF WOUNDS; ITS PRINCIPLES AND PRACTICE, GENERAL AND SPECIAL. By L. S. PILCHER, A.M., M.D., Surgeon to the Methodist Episcopal Hospital in New York. Illustrated. New York: William Wood & Co., 1898.

THIS is a thoroughly revised and rewritten edition of a work published by the author some fifteen years ago. In the revision he has made those changes and amendments which time has rendered essential in an exposition on the healing of wounds—changes which affect methods rather than principles; for the elaboration of the simple surgical technic of the present day involved only a revision of the cumbersome technic of a decade and a half ago.

The present work is divided into two parts,—that dealing with the healing of wounds in general, including a discussion of asepsis and antisepsis and of the various dressings, and that which treats of the methods to secure the healing of wounds in special parts and organs of the body. Surgical emergencies are also considered in some detail and their treatment outlined. The author does not differ in any essential detail from the accepted teaching of the day in the development of which he has had an important part. The book may be commended for study to those who not only wish to read a work on operative surgery, but on the underlying principles of the surgical art as well.

This work is quite profusely illustrated, but some of the engravings are old and correspondingly crude.

THERAPEUTIC HINTS.

For Phalangeal Necrosis. — When, upon incision of a felon an area of necrotic bone is found it is advised by SPUSTER to introduce and apply to the bone a bit of gauze wet with the following solution:

℞ Tinct. iodi, Tinct. krameriæ, aa . . . *m.* lxxx
Iodi pur. . . . . gr. iss
Potassii iodi . . . . ʒ ss
Glycerini . . . . ʒ i.
M. Sig. External use.

A wet dressing is then applied. By the following day the improvement will be marked, and the process in the phalanx will soon subside.

Substitute for Salicylate of Soda.—To patients who suffer from unpleasant symptoms after taking this drug, such as headache, nausea, and ringing in the ears, a mixture of the salicylate of lithia and sulphate of quinin can be given with benefit. No symptoms of intolerance will appear:

R Lithii salicylatis . . . ʒ iiss
Quininæ sulphatis . . . ʒ ss-ʒ i.
M. Div. in pulv. No. XX. Sig. Four powders a day.—*Decoopman.*

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ORIGINAL ARTICLES.

THE LIMITATIONS OF CONSERVATIVE SURGERY ON THE FEMALE GENITAL ORGANS.[1]

BY GEORGE BEN JOHNSTON, M.D.,
OF RICHMOND, VIRGINIA;
PROFESSOR OF GYNECOLOGY AND ABDOMINAL SURGERY IN THE MEDICAL COLLEGE OF VIRGINIA.

MUTILATION of human parts is abhorrent. Every organ has a right to exist until pathologic processes destroy its function, put it beyond repair, or constitute its presence a destroyer of health or a menace to life. Conservatism in pelvic surgery contemplates repair of diseased but redeemable structures, with abatement or removal of morbid conditions, restoration of function, relief of suffering and saving of life. The mere recovery from operation does not constitute success. The test should be relief of symptoms. Surgical discretion is a rare gift. Clean hands, operative skill and a good technic are common. Thus, unnecessary ablations continue because they can be safely accomplished and because unripe operations lack that discernment and judgment without which one is unable unerringly to decide when radical methods should give place to milder ones.

Conservatism must accomplish all that radicalism can, and more, in restoring the integrity of parts without sacrifice. Failing in this, or when extended beyond safe and legitimate bounds, conservatism may become rank radicalism. It is desirable, therefore, to fix its limits as accurately as possible, seeing how variable are the conditions involving its application. Every discreet surgeon enters the pelvic cavity prepared to alter his preconceived plan if unexpected conditions arise. In the selection of a final method in such cases as admit of conservatism he will be governed by (1) the age of the woman; (2) the nature of the malady; (3) the extent of the lesion and the existence of complex pathologic states; (4) the patient's physical condition; and (5) the probable necessity of a second grave operation.

Age of the Patient.—To a woman during the child-bearing period the preservation of the uterus and at least one tube and ovary (or even a portion of the latter) should be accomplished if it can be safely done. Nothing but positive necessity can justify the unsexing of such women. They constitute the peculiar charge of conservative pelvic surgery, and a greater latitude is allowed on account of the importance, for every reason, of their generative organs. Here such measures as carry with them the likelihood of failure and even some risk to life may be resorted to in their behalf. To one approaching the menopause the argument in favor of conservatism is less forcible, but even here it is most desirable to avoid the sudden cessation of the menstrual flow, if it can be avoided. To one past the menopause the ovary alone seems (on account of its internal secretion) to be important, save for the minor consideration of the mechanical advantage of preserving the uterus.

The Nature of the Malady.—It is obvious that no attempt at conservatism should be made in cases of malignant neoplasms, tuberculosis, or suppurative diseases of the tubes or ovaries due to the more malignant pyogenic organisms.

The Extent of the Lesion and the Existence of Complex Pathological States.—Even when most extensive involvement of an organ exists there may remain a small unaffected portion whose preservation would be desirable, but the difficulties connected with identifying and isolating such a healthy portion, in the presence of extensive disease, are great and often determine in favor of radical procedure. Not infrequently upon exploration of the pelvis it is found that the condition for which operation was undertaken is so complicated by other pathological states that the mode of procedure originally contemplated must be abandoned for more radical measures. Thus uterine fibroids may give rise to conditions of the tubes and ovaries necessitating their removal. In such a case little would be gained by saving, at the expense of a tedious operation, a uterus which would at best be a functionless organ.

The Patient's Physical Condition.—Conservative measures, as a rule, involve more extensive manipulations than do radical procedures, hence the latter must at times be adopted where the local conditions would suggest conservatism but where the patient would be unable to stand the prolonged anesthesia and the shock incident to tedious operative measures.

The last of the above considerations—the possible necessity of a second operation—can best be illustrated by one of several cases which have recently come under my observation, and the like of which is constantly met with by pelvic surgeons.

Mrs. X., aged forty-seven years, mother of four

[1] Read at the Centennial Anniversary Celebration of the Medical and Chirurgical Faculty of Maryland, April 26, 1899.

children. After birth of the last, sixteen years ago, without any acute illness she became a confirmed invalid, unable to undergo any exertion and confined to bed most of the time, her longest walk being from her bed to a lounge. Four years ago she consulted a surgeon who discovered a lacerated cervix and perineum, which he repaired. Her symptoms not improving, one year later she again placed herself under his care and was treated for six months with local applications, but without benefit. Two years ago she consulted another surgeon who performed a laparotomy and removed a cyst of one ovary, a hematoma of the other, six myomata (by six separate incisions), and performed a suspension of the uterus.

These conservative measures not affording relief, I was called to the country to see her last August. Upon examination the uterus was found fixed by the operation of suspension, the ovaries and tubes matted together by dense adhesions, and all of the pelvic organs exceedingly painful. I advised radical operation and this was consented to. Upon exploration of the pelvis, after abdominal section, the omentum for about the space of a hand's breath was found adherent along the line of the previous abdominal incision. The uterus was firmly suspended by a strong false ligament and adherent to both the bladder and rectum. It contained three fibroids. Tubes and ovaries were bound down by dense adhesions. The right ovary, from which the cyst had been previously removed, contained several cysts of various sizes, and the left contained a hematoma the size of a hickory nut. Both tubes were the seat of follicular hydrosalpinx. I proceeded to break up the adhesions and performed an oophoro-salpingo-hysterectomy.

This patient made a perfectly satisfactory recovery. On the seventh day after operation she volunteered the statement that she realized that the cause of her illness had been removed and that she felt she was cured. At the end of the third week she was out of bed and one week later she was able to walk better than at any time since the beginning of her illness, sixteen years ago. She is now cured.

In considering the desirability of conservatism in any given case, account must be taken of the relative importance of ovaries, uterus, and tubes. Of these structures the ovary occupies the first place, for the reason that its removal renders uterus and tubes functionless, while, on the other hand, removal of the latter leaves the ovary robbed of its prime function but serving other useful ends. Next in importance stands the uterus, but only, so far as we know, when at least a portion of an ovary can also be preserved. Efforts to preserve tubes alone are not desirable, since these structures are functionless in the absence of ovaries and uterus.

Though only within very recent years has it been conclusively demonstrated that the internal secretion of the ovary is of great importance in the female economy, and strongly suggested (though not proved) that the function of menstruation is more than a monthly inconvenience, still not even these most convincing arguments against the unnecessary removal of the organs concerned are stronger pleas for conservatism than is the moral question involved and the often lamentable mental condition following the unsexing of a woman. This latter consideration is more powerful than ordinarily considered, for women are naturally loth to express themselves freely in matters bearing on sexual relations.

Admitting the wisdom of and justifying the attempts made to defend and restore every pelvic structure presumably capable of regeneration, I may lay down some rules which will fix the limits of our efforts to restore to function and health in the common maladies coming to our notice.

The Ovary. Hematoma.—When large, painful and producing reflex nervous symptoms and occupying the bulk of a single ovary, removal of the organ is required.

Graafian Cysts.—If these be numerous and apparently involve the entire ovary ablation is to be practised. Their removal by dissection means many cavities to be closed by much suture material, the possibility of blood clots, supplying foci for infection, and, later on, painful cicatrices and no amelioration of the symptoms produced by the cysts.

Abscess.—If large and centrally located its removal intact is demanded. Its incision and drainage mean possible direct infection and peritonitis, the probable invasion of the parts sought to be saved with recurrence, a failure to rescue any useful portion of the gland. The urgency of complete removal is enhanced in the presence of systemic infection.

Dermoids.—Unless both ovaries are implicated, dermoids should be treated by complete removal. Even when both organs are affected it may be safer to be radical, inasmuch as these tumors are prone to destroy the organ and likewise to set up an inveterate form of local peritonitis with the formation of painful and dangerous adhesions, which inflammation is only cured by ridding the patient of the diseased parts.

The Tubes.—The uterine tubes should be amputated in (1) extra-uterine pregnancy, whether ruptured or unruptured, if the tube is much enlarged and altered; (2) in kinks and strictures if these are numerous, decided, and accompanied by dense adhesions, because having established by operation the perviousness of the lumen under such conditions, it cannot by any means at our command be maintained and may be followed by either hydro- or pyosalpinx; (3) in hydrosalpinx of either the follicular or flowing varieties, for the reason that the naked eye cannot define the limits of the former, and the latter will yield to no other treatment. In simple hydrosal-

pinx, if the tube is greatly distended, its walls much thinned and in the presence of adhesions; (4) in pyosalpinx in every instance where the infection is other than gonococcal and in these if the abscess cavity is large and the tube walls much impaired. Indeed, attempt to save a suppurating tube is rarely justifiable.

The Uterus.—I shall speak only of the application of operative measures to fibroids. Myomectomy was a great advance in the treatment of fibroids. It seems horrible to sacrifice an otherwise normal uterus on account of the presence of removable fibroids, yet unnecessary hysterectomies continue. Perhaps the most difficult problem in determining between conservatism and radicalism presents itself when the surgeon comes to deal with fibroids. There are two conditions, which, if existing, lead to a speedy conclusion. The presence of a limited number of only subserous tumors at once indicates the removal of the tumors only. On the other hand, if the tumors are deep-seated, or embrace the bulk of the uterus, or if they are very large, nothing is to be accomplished by hystero-myomectomy.

The doubtful cases are those in which the tumors are interstitial and small. Even here, when few and well defined, myomectomy may be undertaken with reasonable hope of success. The difficulty of distinguishing *every* nodule is very great, and where the number is large the numerous and deep incisions required for their extirpation render the operation for their complete removal tedious, dangerous and uncertain. I therefore contend that in every case at all doubtful, *except when they occur in young women*, hysterectomy is preferable to incomplete myomectomy. Overlooking and leaving a single nodule may destroy the permanent effect of the operation and require a second of a more thorough kind. The presence of complications, such as the coexistence of pathologic conditions in two or more organs, usually places the case beyond conservatism, as may the existence of disease in remote organs.

While conservatism properly applied is both wise and humane, to be tolerated it must accomplish what it seeks to do. In its application, the soundest judgment, the ripest experience and consummate skill must be present. The difficulties which encompass it are great:

1. It often entails prolonged effort, thus increasing the liability to shock.

2. Extensive manipulations which denude the peritoneum, thereby increasing the risk of infection and setting up post-operative adhesions and, maybe, intestinal obstruction. By dealing with open pus-cavities, grave danger of infection occurs. It often requires many wounds, which mean much hemorrhage, numerous cavities to be repaired, foreign suture material left behind to accomplish these repairs, the possible formation of blood-clots, which furnish foci for infection, a likelihood of secondary hemorrhage, perhaps painful scars and almost certainly, when many points have been subjected to operation, post-operative adhesions.

3. The bruising of tissues incident to harsh methods of controlling hemorrhage, thereby impairing the recuperative powers and thus endangering the success of the undertaking.

4. Finally, the ever-present prospect of a second operation.

THE USE OF FORMALDEHYD GAS AS A DISINFECTANT FOR DWELLINGS, VEHICLES, AND HOUSEHOLD GOODS.[1]

BY WILLIAM H. PARK, M.D.,
OF NEW YORK;
ASSISTANT-DIRECTOR OF THE BACTERIOLOGICAL LABORATORIES OF THE DEPARTMENT OF HEALTH OF THE CITY OF NEW YORK; ADJUNCT PROFESSOR OF BACTERIOLOGY AND HYGIENE IN THE UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE.

FORMALDEHYD is now such a well known substance that it will be necessary for the purposes of this paper to only review in the briefest way its properties before discussing its practical use as a gaseous disinfectant. At ordinary temperatures it is a gas having the chemical formula CH_2O, and possessed of an extremely pungent odor, very irritating to the mucous membranes of the eyes and nose. It is an unstable compound, for its molecules tend to combine and produce other substances having utterly different chemical and physical properties. Thus three molecules combining together form trioxymethelene or paraform, a white crystalline body almost inert, but which by heat is decomposed again into formaldehyd gas.

Formaldehyd is usually manufactured in large quantities from methyl alcohol by allowing its vapor mixed with air to come in contact with platinum or other substances heated to redness. For disinfection purposes, however, this has not proven either a very practical or a very economical method, and it is now almost universally obtained from a thirty-five to forty-per-cent. solution in water, called commercially formalin, or from its solid form, trioxymethelene.

Formaldehyd has the important property of uniting with nitrogenous products of decay thus forming true chemical compounds which are odorless and sterile. It is thus a true deodorizer. It has also a peculiar action upon albumen which it converts into an insoluble and indecomposible substance. It is from this power of combining chemically with the

[1] Read at the Ninety-third Annual Meeting of the New York State Medical Society, held at Albany, January 31, and February 1 and 2, 1899.

albumenoids forming the protoplasm of bacteria that formaldehyd is supposed to derive its destructive power against bacteria. Formaldehyd is comparatively non-toxic to the higher forms of animal life and considerable quantities of it have been inspired without fatal effect.

If we consider now the practical application of formaldehyd gas for purposes of disinfection we find that its destructive action on micro-organisms depends upon a number of factors, the chief of which are its concentration in the atmosphere surrounding the bacteria, the length of time of the contact, the existing temperature, the accompanying moisture, and the nature of the organism.

The necessary concentration of the gas in the atmosphere to kill the micro-organisms varies with each species, for some resist chemical agents much more than others; and also with the freedom of access of the gas to the bacteria, for if they are under cover or within fabrics a greater amount of gas must be generated than if they are freely exposed. For purely surface disinfection when the less resistant bacteria or other organisms are to be destroyed six to ten ounces of formalin of full strength to 1000 cubic feet suffices. For the destruction of the more resistant but non-spore bearing forms, such as typhoid fever or tubercle bacilli, at least three times the smaller amount of gas specified above should be generated. The gas penetrates through fabrics with difficulty, and to pass through heavy goods the concentration of the gas must be increased tenfold and moderate heat added.

The Value of Moisture. — At first it was thought by many that formaldehyd gas acted more effectually in a dry atmosphere, but further investigation has proven that although it does destroy bacteria with the amount of moisture usually present in the air yet it acts much more powerfully and certainly when additional moisture is present and best when present up to the point of saturation.

A fairly high temperature, but one still below that which would injure delicate fabrics, increases not only the activity of formaldehyd gas, but also its penetrative power, and for heavy goods some heat is essential. The production of a partial vacuum in the chambers containing the goods before the introduction of the formaldehyd gas still further assists its penetration.

The length of exposure necessary for disinfection depends upon the nature of the bacteria producing the disease for which disinfection is carried out, the penetration required to gain access to the bacteria, the concentration of the gas used, the amount of moisture in the air, the temperature of the air and the size and shape of the room. For surface disinfection in rooms when as much as twelve ounces of formalin is used for each 1000 cubic feet five-hours' exposure is amply sufficient, most bacteria being killed within the first half hour. For the destruction of micro-organisms protected by even a layer of thin covering, double the formalin and double the time of exposure should be allowed, and even then the destruction of many species of the more resistant non-spore bearing bacteria cannot be counted upon under the conditions met with in ordinary rooms. If absolutely complete disinfection is demanded, where penetration is required, the goods must be placed in special chambers where moderate heat can be added and all leakage of gas prevented.

Various forms of apparatus can be properly employed to liberate formaldehyd gas for purposes of disinfection. As each of these is lauded by its maker as the best, it may be of interest to give the results obtained by us from those in most common use.

1. *From Wood Alcohol.*—A number of lamps have been devised, all very much on the same principle, though varying somewhat in mechanical construction, which bring about the incomplete oxidation of methyl alcohol by passing the vapors mixed with air over incandescent metal. Although disinfection can be carried out by the best of these lamps, in our experience none of them is satisfactory or economical. They are amply sufficient for deodorization.

2. Commercial formalin is mixed with double its volume of water and placed in a suitable apparatus and boiled. The addition of water is for the purpose of diluting the formaldehyd and thus preventing its change into paraform, and also to add moisture to the air and aid the activity of the formaldehyd.

3. *From Formochloral by the Trillat System.*— This system consists in heating, under three atmospheres, a solution of formaldehyd gas in water mixed with thirty per cent. of calcium chlorid, known as "formochloral," to a temperature of 135° C. (255° F.). It is claimed for this method of producing the gas from formochloral that the polymerization of the formaldehyd is prevented, which would otherwise take place if a solution of formaldehyd were evaporated under ordinary conditions, and that thereby the whole of the formaldehyd is obtained in the gaseous state. The addition of any neutral salt aids the process, it is said, but calcium chlorid is the best. The formalin used for making the mixture should be free from methyl alcohol, otherwise, according to Trillat, this will combine with an equal quantity of formaldehyd, to produce methylal, a body having no disinfecting power, and thus cause

a loss of formaldehyd. The results with this apparatus have been satisfactory, but not more so than by other methods. The apparatus has the disadvantage of being expensive and heavy.

4. *From Formalin by the New York Sanitary Construction Company's System.*—This method consists in heating the ordinary commercial formalin to a temperature of 1000° F. or more in an incandescent copper coil or chamber and allowing the vapors to pass off freely. It is claimed for this method, in which the solution of formaldehyd is slowly introduced into an incandescent tube kept at a very high temperature, that the degree of heat is supplied necessary to break up the polymerized products formed, and thus a loss of formaldehyd is prevented. A further action of the intense heat in the copper tube on the solution is to convert the methyl alcohol contained in commercial formalin into formaldehyd gas by partial oxidation, thereby preventing the formation of methylal and increasing the amount of formaldehyd.

The apparatus consists of a closed receiver of copper holding about a gallon, a coil of copper pipe attached at one end to the bottom of the receiver, and, like the preceding apparatus and the one to be described later made by Lentz, at the other by means of a suitable connection (rubber tube with gutta-percha or metallic endpiece) with the room or apartment to be disinfected; and a heating lamp or Bunsen burner. In operation the desired quantity of formalin is placed in the receiver and the receiver is closed. The lamp is lighted and the coil brought to a red heat. The valve is then opened and the solution contained in the receiver is allowed to pass down and into the coil in a fine stream. Upon coming in contact with the heated metal, the formaldehyd solution is instantly decomposed and the gas liberated. The apparatus is fitted with a handle by which it may be carried, and weighs about 15 pounds, when filled. The receiver need not be refilled until the contents are exhausted. Six to twelve ounces of formalin are sufficient to disinfect 1000 cubic feet of space. The results with this apparatus, so far as our observation goes, have been as good as those obtained by any other means. The apparatus is rather expensive and slow in operation and is somewhat liable to get out of order.

5. *From Trioxymethylene or Paraform by Schering's System.*—This system consists in heating the solid polymer of formaldehyd, trioxymethylene, in a lamp specially contructed for the purpose by the Chemische Fabrik auf Actien in Berlin. The trioxymethylene for convenience is used in the form of compressed tablets or pastils. Each pastil contains the equivalent of 100 per cent. of formaldehyd gas, according to the manufacturers, and weighs one gram.

The mode of using the apparatus is very simple. The disinfector is placed upon a sheet of iron on the floor of the room to be disinfected. From 100 to 200 pastiles can be evaporated at a time in the apparatus. For the production of greater quantities of formaldehyd vapors, several of these outfits must be used together. The lamp is filled with alcohol, about four times as many cubic centimeters of the alcohol being employed as there are pastils to be evaporated. The wicks should project but little above the necks of the burners, or the apparatus may get too hot and ignite the pastils. The vessel is charged with formalin pastils, and the disinfector placed over the lighted spirit lamp. The lamp is allowed to burn out in the closed room. Seventy-five pastils are considered to be sufficient for the disinfection of 1000 cubic feet of space. Lately a small steam boiler has been added to the apparatus for the purpose of furnishing sufficient moisture with the gas. The results obtained by us in superficial disinfection when from 150 to 200 pastils have been used to each 1000 cubic feet have been good. The great advantage of the method is in its small initial cost and in the ease of employing the apparatus and the avoidance of the danger of deterioration which is present to some extent in formalin.

6. *From Formalin to Which Glycerin Has Been Added.*—A very convenient apparatus of somewhat greater cost than that of Schering is prepared by Charles Lentz and Sons of Philadelphia. To the formalin is added 10 per cent. of glycerin and the mixture is simply boiled in a suitable copper vessel, the steam and formaldehyd gas passing off by a tube similar to that used by the Sanitary Construction Company and Trillat Systems. In our experiments, which have not been very extensive, the addition of the glycerin has not seemed to add much to the effectiveness of the formalin.

With a slightly greater amount of formalin than that used in the high temperature autoclave and heated-tube methods the results seem to be equally as good. The apparatus is very easy to use, rapid in action and not liable to get out of order.

CONCLUSIONS.

As a result of the investigations undertaken in the Department of Health Laboratories on the use of formaldehyd as a disinfectant, and a consideration of the work of others the conclusions reached may be summarized as follows:

1. *Disinfection of Infected Dwellings.*—Exposed surfaces of walls, carpets, hangings, etc., in rooms may be superficially disinfected by means of formal-

dehyd gas, all apertures being tightly closed, when employed in the proportion of 12 ounces of formalin or 5 of paraform to each 1000 cubic feet, the time of exposure to be not less than four hours, and the temperature of the apartment not below 52° F. Under these conditions non-spore bearing bacteria are entirely or almost entirely destroyed when freely exposed to the action of the gas. Spore-bearing bacteria, such as anthrax bacilli, are not thus generally destroyed. But these latter are of such rare occurrence that in house-disinfection they may practically be disregarded, and if present, special measures can be taken to destroy them.

The penetrative power of formaldehyd gas at ordinary room temperature, even when used in double the strength necessary for surface disinfection, is extremely limited. Articles, therefore, such as bedding, carpets, upholstery, clothing, and the like, should when possible be subjected to steam, hot air, or formaldehyd disinfection in special chambers constructed for the purpose. If not, they must be thoroughly exposed on all sides. Diphtheria bacilli are fortunately among the most easily destroyed bacteria.

2. Disinfection of Bedding, Carpets, Upholstery, etc.—Bedding, carpets, clothing, etc., which would be injured by steam may be disinfected by means of formaldehyd gas in the ordinary steam disinfecting chamber, the latter to be provided with a heating and vacuum apparatus and special apparatus for generating and applying the gas. The gas should be used in the proportion of not less then tenfold the amount used for surface disinfection, the time of exposure to be not less than eight hours, and the temperature of the chamber not below 110° F.

In order to insure complete sterilization of the articles they should be placed so as to allow of a free circulation of the gas around them; that is, in the case of bedding, clothing, etc., these should either be spread out on perforated wire shelves or loosely suspended in the chamber. The aid of a partial vacuum facilitates the operation. Upholstered furniture and other articles requiring much space should be placed in a large chamber, or better, in a room which can be heated to the required temperature. The most delicate fabrics, furs, leather, and other articles which are injured by steam, hot air at 230° F., or other disinfectants, are unaffected by formaldehyd.

3. Disinfection of Books.—Books may be satisfactorily disinfected by means of formaldehyd gas in the ordinary steam chamber as above described, and under the same conditions of volume of gas, temperature, and time of exposure. The books should be arranged to stand as widely open as possible upon perforated wire shelves set about one or one and one-half feet apart in the chamber. A chamber having a capacity of 200 to 250 cubic feet would thus afford accommodation for about sixty books at a time. Books cannot be satisfactorily disinfected by formaldehyd gas in houses and libraries, or anywhere except in special chambers constructed for the purpose, because the conditions required for their disinfection cannot otherwise be complied with. The bindings, illustrations, and print of books are in no way affected by the action of formaldehyd gas.

4. Disinfection of Carriages, etc..—Carriages, ambulances, cars, etc., can be easily disinfected by having built a small, tight, brick building, in which they can be enclosed and surrounded with formaldehyd gas. Such a building is used for disinfecting ambulances in New York City.

5. Advantages of Formaldehyd Gas over Sulphur Dioxid for the Disinfection of Dwellings.—Formaldehyd gas is superior to sulphur dioxid as a disinfectant for dwellings, first, because it is more effective in its action; second, because it is less injurious in its effects on household goods; third, because, when necessary, it can easily be supplied from a generator placed outside of the room and watched by an attendant, thus avoiding, in some cases, danger of fire. Apart from the cost of the apparatus and the greater time involved formaldehyd gas generated from commercial formalin is not much more expensive than sulphur dioxid, *viz.*, 20 cents to $1 per 1000 cubic feet against 10 cents with sulphur.

Formaldehyd gas is the best disinfectant at present known for the surface disinfection of infected dwellings. For heavy goods it is far inferior in penetrative power to steam and dry heat at 230° F., but for the disinfection of fine wearing-apparel, furs, leather, upholstery, books, and the like, which are injured by great heat, it is, when properly employed, better adapted than any other disinfectant now known.

The experimental work upon which these conclusions are largely founded was done in conjunction with Dr. Arthur A. Guerard, and Dr. Robert J. Wilson, Assistant Bacteriologists, New York City Health Department.

OTOLOGY; ITS RELATION TO GENERAL MEDICINE.

By G. GRIFFIN LEWIS, M.D.,
of Syracuse, N. Y.

The family physician, as a rule, is the first to be consulted in incipient ear trouble, and as a great many of the cases require immediate attention it behooves him to be somewhat familiar with the aural

symptoms; and to know how to meet them. The busy practitioner has little time to devote to the study of otology; in fact, as a rule, there is no branch of his profession which he dislikes or neglects more. This is a fact much to be regretted, for there probably is no class of diseases which, if neglected or improperly treated, will result so disastrously to the patient as those of the ear. This statement is emphasized by the vast number of patients with preventable deafness who present themselves to the specialist with a bad purulent discharge from the ears which has existed since childhood.

The great majority of ear diseases have their incipiency in infancy and early childhood and many of them are closely connected with certain general diseases, especially the acute exanthemata, and for this reason they are all the more liable to be overlooked both by the medical attendant and the parents who are mostly concerned about the general affection without any suspicions of a local one. In the consideration of my subject I shall endeavor to be as brief as possible in my reference to those aural affections which the general practitioner is called upon to treat, and will omit entirely any reference to the treatment of those diseases which require the attention of the aurist.

Hereditary tendency, age, occupation, and habits, are strong factors in the causation of all forms of ear disease, but the occurrence of the large majority of such diseases, especially during infancy and childhood, can be ascribed to some one of the infectious or febrile diseases. Many a case of permanently impaired hearing may be traced to the failure of the medical attendant or parents to recognize the existence of ear trouble during a siege of acute febrile disease. At such a time, when one's resources are taxed to the utmost in combating the systemic trouble, he is not apt to direct special attention to the condition of the ear and, ordinarily, it is not until convalescence begins that the aural symptoms are noticed. During the course of any of the acute febrile or infectious diseases frequent and thorough inspection should be made of the ear, the nose, throat, and nasopharynx, even though there may be no aural symptoms complained of by the patient. The latter organs are the starting-points of many cases of incurable deafness, the mucous membrane of these being involved in nearly all the acute infectious and febrile diseases. The extension of this catarrhal condition to the Eustachian tubes, unless properly treated, will almost invariably cause middle-ear trouble. The rhinitis associated with scarlet fever or measles has an especially virulent effect upon the middle ear and particularly so when either one is accompanied by nasopharyngeal diphtheria. The latter disease may extend through the Eustachian tubes into the tympanum, causing ulceration and destruction of tissue. In some cases, when the micro-organisms invade the labyrinth, severe and even total deafness may result. Paralysis of the palate is also of frequent occurrence and this interferes with the proper ventilation of the tympanum, sooner or later producing a hyperemia and catarrh of the middle ear. Ear disease may also originate during an attack of smallpox, chickenpox, whooping-cough, or mumps.

Of the acute febrile diseases which enter into the etiology of aural affections influenza ranks first, being accompanied in many cases by an intense aural hyperemia entirely disproportionate to the conditions usually seen. Deafness to a certain degree is very common during an attack of typhoid fever and, unless it receives early and proper treatment, is quite likely to be permanent. In pneumonia and bronchitis middle-ear trouble may result from the passage of the infectious germ through the blood current and its lodgment in the tympanic mucous membranes, or by the condensation of air in the middle-ear brought about by excessive coughing. The syphilitic, rheumatic, tubercular, and strumous cachexiæ, predispose to and unfavorably influence diseases of the ear. Syphilis induces catarrhal swelling of the mucous membrane of the middle ear and the auditory nerve becomes secondarily affected. Aural diseases of rheumatic origin are usually chronic or have a tendency to occur frequently. Oft times they are accompanied by no general rheumatic symptoms until weeks or months after the aural lesion has become manifest. The almost incurable progressive deafness accompanied by tinnitus aurium is most frequently of a rheumatic nature. In tuberculosis the most common ear trouble is a chronic, persistent, and destructive suppuration of the tympanum. Lesions of the ear are as common with kidney trouble as lesions of the eye. In Bright's disease a change in the tension of the labyrinth may be brought about by interference with the general venous circulation. Eczema of the auricle and furuncles of the external auditory canal are of common occurrence with diabetic patients. Intracranial diseases, such as brain fever, meningitis, cerebral tumors, abscesses, or hemorrhages, may diminish or destroy the hearing by direct damage to the auditory nerve or by causing anemia, congestion, or hemorrhage within the labyrinth. Cerebrospinal meningitis ranks first as a factor in the etiology of acquired deaf-mutism. Insanity seems to claim an almost exclusive companionship to hematoma of the auricle and the appearance of the latter makes the prognosis of the former very grave.

Whenever disease of any nature is accompanied

by nose and throat complications one should not forget the possibility of ear trouble arising and should at once secure freedom of respiration and perfect cleanliness of the nasal mucous membrane.

That certain drugs exert a specific influence upon the organ of hearing is a well-known fact. These changes constitute anemia or hyperemia of the labyrinth or tympanum, which nearly always passes off after a time but if the drug influence is pushed to any great extent structural changes are brought about in the labyrinth and more or less permanent deafness results. Quinin is particularly liable to affect the ear, and the habit of prescribing large doses of it to break up a cold in the head cannot be too strongly condemned. During an attack of coryza there is almost always more or less congestion of the middle ear which is greatly increased by the administration of quinin. Salicin and salicylic acid, with its salts, stand next to quinin in their influence upon the ears. Alcohol and tobacco used to excess may, through their influence upon the mucous membrane of the nose and throat, exert a deleterious effect upon the ear. This is especially the case when tobacco is taken in the form of a snuff or when the smoke is exhaled through the nose.

Certain pathologic conditions, especially in females of a neurotic or hysteric type, may produce alterations of function within the organ of hearing; thus otalgia is frequently the result of oral irritation caused by cutting, crowding, or caries of the teeth, inflammation of the gums, ill-fitting plates, etc. Nasal douches or syringes, either anterior or posterior, should never be used, as they are liable to force fluid through the Eustachian tubes into the tympanum. This fact has been particularly impressed upon the mind of the writer by a very severe attack of acute otitis media brought upon himself by the use of a certain douche which of all douches is considered the least harmful. Snuffs, either powder or liquid, should for the same reason be condemned.

Regardless of the fact that in nine-tenths of all aural diseases the pathologic process is on the inner side of the impervious drum membrane, "ear-drops" are being constantly prescribed for all forms of ear disease. It would be a difficult task to enumerate all the irritating substances that are being inserted, with all solemnity, into the outer ear passages; in fact, it sometimes seems that there are but few fluids which have not been used in this way. Perhaps the most commonly used domestic remedy is sweet oil and laudanum. If warm when inserted the heat for a few moments may slightly ease the pain, but the alcohol of the laudanum is irritating to the membrane, while the oil becomes rancid, irritates, and serves as a culture for aspergillus. The same is true of all greasy substances so frequently put into the ear. Glycerin, which is one of them, robs the mucous membrane of all of its moisture and excites inflammation.

Perhaps the most common form of treatment adopted by the majority of practitioners for nearly all forms of ear disease is the use of the Politzer bag. All honor to Dr. Adam Politzer for giving to the profession this very easy and valuable method of inflating the middle ear, but I am of the opinion that if he could have foreseen the manner in which it was destined to be misused and the immense amount of harm that would result from its misuse, he would have hesitated long before making his discovery known. In many cases Politzeration is a dangerous procedure; for instance, in unilateral deafness, think of the wisdom of subjecting the well ear to such treatment, for it is impossible by this method to confine the air-pressure to one side. Many a case of deafness is produced or made worse by the stretching of the drum membrane due to over Politzeration. Rupture of the tympanic membrane is sometimes the result of too forcible a compression of the air-bag. This is particularly liable to happen when a patient is recovering from an attack of acute otitis media and the perforation in the membrane has just healed over. Attacks of mastoiditis may result from Politzeration during an attack of acute otitis media before perforation of the membrane and when the middle ear is partially filled with pus. Inflammation of the tympanum may also be produced by a mucopurulent discharge being forced through the Eustachian tubes from the nose. The same objections contraindicate Valsalva's method of inflation, though in a less degree.

Syringing out the external auditory canal in proper cases is a valuable procedure, but, unless done properly, may do considerable harm. The canal should be straightened by drawing the auricle upward and backward, and the current of water should be directed against the various sides of the canal, thus preventing too much force from being exerted against the tympanic membrane. The water should be of a proper temperature, and the canal should be thoroughly dried afterward. The prolonged presence of water in the canal, even at the temperature of the body, is liable to cause trouble. This fact is emphasized by the vast increase in the number of aural cases during the swimming season. For the same reason the practice of prescribing the syringe for the patient to use or have used at his own home certainly seems unwise. Blisters and poultices, over or in the region of the ear, are certainly of limited usefulness and considerable harmful potency. Poultices or hot water used to excess dur-

ing an acute inflammation of the middle ear soften the membrana tympani and hasten its rupture. If used after perforation they favor the growth of granulations, and have been known to cause facial paralysis.

Having so far dwelt principally upon the causes of ear disease, I will briefly refer to the remote affections and symptoms which are secondary to or dependent upon such diseases. Considering the rich supply of nerves in the external and middle ears, and the free anastomosis of these nerves, it is not to be wondered at that pathologic changes within these parts may give rise to remote symptoms. Thus, through the trigeminal and pneumogastric nerves, branches of which supply the external and middle ears, the stomach, lungs, or diaphragm may suffer from reflex irritation brought about by hardened cerumen, foreign bodies, etc., in the external auditory canal. Ear disease, by reflex irritation of the pneumogastric nerve through the medium of the trigeminal, is capable of establishing and maintaining an irritable state of the digestive apparatus. Cases of cough arising from aural reflex are not uncommon. They are usually spasmodic and persistent in character, so whenever a cough of that nature does not respond to the usual treatment an examination of the ear will often reveal the cause and the removal of the irritation will effect a cure. Hiccough is frequently dependent upon aural irritation. The writer has in his care at the present time a patient with catarrh of the Eustachian tubes, who, on several occasions has been awakened from sleep by a very severe and rapid hiccough, which is relieved by Valsalva's method of inflating the middle ear.

Eye symptoms, such as nystagmus, strabismus, paralysis of the superior oblique muscle, or contraction or dilatation of the pupil may also result from aural irritation. Brain complications resulting from neglected ear disease are quite common. Abscesses of the brain, meningitis, phlebitis, sinus thrombosis, epilepsy, facial paralysis, and vertigo are some of the possible results of neglected purulent inflammation of the middle ear and the etiology in many such cases is first discovered in the post-mortem room. Statistics show that more than one-half of all brain abscesses are caused by ear disease and that not far from two thousand deaths occur annually in Great Britain and four thousand in the United States from this result. Bergman asserts that the history of otorrhea, past and present, together with persistent sleeplessness and a temperature remaining steadily at about 99° F. are sufficient indications for opening the cranial cavity for the purpose of exploration. Irritation in the external or middle ear or any condition which will produce an alteration of intralabyrinthine pressure may cause vertigo which is often mistaken for stomachic vertigo or the so-called bilious epilepsy. Woakes of London claims that all vertigo is essentially auditory in its location and that when it exists where there has been no prior ear disease it is due to reflex impressions.

Earache is a very common complaint, especially in children, and although the majority of the subjects recover without the aid of a physician the prompt and proper treatment in many instances is of vital importance to the patient. A large percentage of the permanently deaf may trace the beginning of their infirmity to an earache, which, being regarded by their parents or guardians as the merest trifle, was consequently allowed to go without the proper medical attendance. Pain in the ears nearly always means inflammation, and especially is this true if the hearing is impaired. In most instances it is caused by an acute congestion within the middle ear but may be due to some abnormal condition in the external auditory canal, such, for instance, as furuncles, impacted cerumen, and foreign substances. In exceptional cases it may be reflex from a decayed tooth or a hypertrophied tonsil. In any case the first thing to do is to locate the seat of trouble, which may be done by a thorough inspection of the parts, ascertaining whether or not there is any redness, bulging, or retraction of the drum membrane, any soreness in the external auditory canal, or any tenderness accompanying pressure upon the tragus or over the mastoid bone. Thorough inspection of the nose, throat, and teeth should also be made. If the hearing is not interfered with the pain in all probability is of a neuralgic origin.

The proper treatment to pursue in these cases of otalgia, when not of a neuralgic origin, is first, the application of leeches in front of the tragus. In very young children a small blister in the same location may be substituted unless the case is a severe one. Heat applied over the ear, or a hot boracic or carbolic solution instilled into the ear, will often act like magic in lessening the pain and aborting the congestion but care should be exercised not to continue the hot instillations longer than really necessary as too much moist heat will soften the tissues and make them an easier prey to the inflammatory process. Inflation of the tympanic cavity is advisable in many cases when there has been no formation of pus in the cavity. Sometimes the instillation of a warm solution of cocain, or atropin and cocain mixed, will allay the pain and abort the attack. Should these remedies fail to relieve paracentesis of the drum membrane should be performed at the

most dependent part. This procedure will immediately relieve the pain, prevent spontaneous rupture, and favor the evacuation of pus, which otherwise, through one of its several means of communication, might produce septic inflammation of the brain or mastoid cells. The puncture, under favorable circumstances, will heal up within a few days, with a complete restoration of hearing, while a spontaneous rupture would take much longer or may never heal at all, and in either case usually leaves the hearing more or less impaired. Following the puncture or rupture of the drum membrane is a mucous discharge, which if neglected or improperly treated will become purulent and have an offensive odor. The treatment of such discharges comprises cleanliness, drainage, and the removal of diseased tissue, this being accomplished by properly syringing out the ear with a warm antiseptic solution followed by the instillation of a saturated solution of boracic acid and an occasional and gentle inflation of the tympanum. If this treatment does not effect a cure all granulations should be removed and astringent solutions used. Insoluble powders should not be blown into the ear as they may occlude the perforation and cause mastoid trouble, and for the same reason the patient should not be allowed to wear cotton in the ear.

Foreign bodies in the external auditory canal, in the majority of cases, are best removed by the syringe, care being taken to direct the current of water against the walls of the canal instead of against the substance itself. Inspection should also be made after each syringeful has been injected in order to ascertain the effect. A camel's-hair brush dipped in glue and brought in contact with the foreign substance and allowed to dry will often be of service in its extraction. Instruments should not be used until these means have failed, as, especially in the hands of the inexperienced, they may do great damage to the drum membrane and to the walls of the canal. In many cases more damage is done by the attempts at extraction than by the presence of the foreign body itself. Several cases have been reported in which the substance has been shoved through the drum membrane into the tympanum, producing middle-ear inflammation followed be cerebral disease and death. Unless the attending physician has the proper means at hand for removing the foreign substance, and is quite sure of success it is better for the patient to leave it alone in spite of the urgent demands of the parents or friends until such a time as the proper means and skill can be secured. Foreign bodies in some cases may remain in the ear for an almost indefinite period without exciting any local irritation and sometimes even without the patient's knowledge. Children often place foreign bodies in their ears and say nothing about it for fear of punishment, and they may not be discovered for months afterward. It is always well in such cases to examine both ears. Not long age a sister from one of our charitable institutions brought a little girl to me with a stone crowded into the external auditory canal of the right ear. Upon inquiry as to how it got there, the answer was that another little girl threw it in. Knowing such a thing to be impossible, and suspecting that it had been inserted by the patient herself, I asked her if she had anything in the other ear, to which she replied "No." Inspection of the left ear, however, revealed the presence of a substance which proved to be a wad of paper literally covered with hardened cerumen. It must have been in there at least several months. Insects frequently get into the external auditory canal and often cause intense pain. The best method to pursue in such cases is first to pour in some warm sweet oil, and then after a few moments syringe it out.

Impacted cerumen does not occur in ears otherwise healthy but in the majority of cases is the consequence of a chronic, non-suppurative inflammation of the middle ear, or of some irritation transmitted by the trigeminal nerve to the tympanum and auditory canal, therefore, it is not sufficient in these cases simply to remove the cerumen but to look for the cause of it. Impacted cerumen may be very easily removed by the syringe, the surgeon being particular after its removal to thoroughly dry the canal and inflate the tympanum. If it is too hard to remove in this way it may first be softened with a solution of bicarbonate of soda.

CLINICAL MEMORANDUM.

OBSTINATE HEMATURIA DURING PREGNANCY.[1]

By WILLIAM BYRD YOUNG, M.D.,
OF BON AIR, TENN.;
PROFESSOR OF GYNECOLOGICAL AND ABDOMINAL SURGERY IN THE SEWANEE MEDICAL COLLEGE, UNIVERSITY OF THE SOUTH.

Mrs. H., aged twenty years, weight 157 pounds. Early in January, when she was about three-months pregnant, I prescribed without seeing her, elixir of buchu, juniper, and acetate of potash for painful and frequent micturition, which gave relief. Up to this time she had always been in good health. About three weeks ago, when she was possibly six-months pregnant, I was called in to see her on account of her having noticed blood in her urine. At first the percentage was very small. She was also suffering from pain in her back, and violent headache. Thinking possibly the hemorrhage was uter-

[1]Read before the White County (Tenn.) Medical Society.

ine I made a vaginal examination, but found no blood coming from this canal. However, to make the diagnosis doubly sure I sterilized a soft rubber catheter, and drew off the urine, which contained a large percentage of fluid blood. The urine was loaded with albumin. After having applied heat and nitric acid it could scarcely be poured from the test-tube. Supposing this was due to the blood present in the urine I allowed a specimen to stand twenty-four hours and then tested the supernatant fluid, which showed a very high percentage of albumin. During two or three days she did not pass one pint per day. Her feet, hands, and face were but little swollen. I prescribed 15 grains of gallic acid, and 15 drops of tincture of iron, every four hours, alternating the two. For the headache I prescribed bromid of potash, 20 grains, every hour. Hot baths twice a day were ordered, and she was told to drink all the water she could. Her diet was restricted to milk and soup.

All the symptoms improved during the next forty-eight hours, with the exception of the hematuria, which grew steadily worse until at least two-thirds of the fluid she passed from the bladder was blood. The color of the fluid grew darker from the first until at its worst it looked exactly like freshly drawn venous blood. The reaction of the urine was neutral. The specific gravity for several days ranged between 1018 and 1024. At the end of about forty-eight hours her headache became very violent, and she grew exceedingly restless. The next time I visited her she was on the verge of an eclamptic convulsion. I at once gave her a hypodermic injection of morphin, and one hour later, one drop of croton-oil in a capsule. Within a very short time her bowels began to move, and in the next ten hours they acted perhaps ten or fifteen times. The discharges were free and watery. This seemed to relieve her and she obtained a few hours of refreshing sleep. The gallic acid and iron were continued night and day up to the afternoon of the third day without affecting the hematuria in the least. As it was increasing, and the patient growing anemic, with a pulse of 110, and a temperature of 99° F., I decided to discontinue the gallic acid, and gave her 10 drops of fluid extract of ergot every four hours, alternating with the iron, which I had gradually increased until she was taking 25 drops at each dose. She never vomited any of the medicine.

During the afternoon and night of the third day there passed from the bowels considerable fluid, very much like that coming from the bladder, only it appeared to be about the consistency of thin sorghum. The following morning I asked for a consultation, and Dr. Snodgrass of Sparta was telephoned for. After examining the patient he agreed with me and we continued the same treatment up to Wednesday the sixth day, when I ordered the ergot to be given every six hours instead of every four, because the patient stated that she had not felt the child move in the womb since Sunday. The urine was no better until Thursday morning, when it began to clear up, and by Friday morning it looked almost normal, and did not contain so much albumin. Thursday morning I discontinued the ergot entirely, but continued the iron. Saturday morning the urine began to look bloody again, and remained so until Monday morning, when the patient miscarried. The quantity of urine did not increase much until after the delivery. The delivery was normal, the placenta and membranes coming away very nicely in about twenty minutes. The child was dead. It was very poor, the skin was flabby, wrinkled, and distinctly discolored, being of a dark pink. The cord was black, but no clots were in it. The fluid that escaped on severing the cord was dark and closely resembled the discharge from the bladder. From the hour of delivery every symptom began to grow better except the pulse. This remained at about 100 or 115 for several days.

There are several points of considerable interest in connection with this case. First, did the ergot kill the child? Second, was the hematuria relieved during Thursday, Friday, and a part of Saturday by the ergot, or was the cessation due to the death of the child? third, did we do right in giving the ergot? In the language of the gamester, we had to play for what was in sight, because no authority on the subject could we find. After searching diligently through all the journals and text-books at my command I failed to find one word on the subject, except the following report of a case under the head of "hemophilia," in the "American System of Obstetrics:" "Large, well-formed pallid woman, twenty-three years old. Three abortions, with profuse hemorrhage, within the first three years of her marriage. During the fourth pregnancy frequent severe nose-bleeding; in the fourth month *continuous hematuria*, then epistaxis. Premature labor at the beginning of the eighth month. Death from anemia one month later." In the MEDICAL NEWS of May 4, 1889, Barton Cook Hirst, M.D., gives a short report of a case of hematuria in pregnancy. This is the only mention of the subject I could find in the journals. Dr. Hirst's case was in some respects similar to mine. The woman, twenty-six years old, was six-months pregnant. The hematuria appeared suddenly, but did not increase nor become alarming, although it continued until the woman was confined, after which the urine began to clear up, and on the third day the blood had quite disappeared. There was no report of symptoms of eclampsia, albumin, no scarcity of urine, no persistent headache. The author says: "The explanation of this case, as of the majority in which bloody urine appears during pregnancy, is very likely to be found in bleeding hemorrhoids of the bladder, produced by the pressure of the large gravid womb on the pelvic veins." The only thing he says in regard to the treatment in such cases is the following: "The treatment in such a case can be little more than expectant until pregnancy is terminated, unless, in a rare event, the quantity of blood is alarming." There was poor consolation in such reports to men under the trying ordeal through which Dr. Snodgrass and I were passing.

The Consumption of Coffee.—The average annual consumption of coffee in the United States during the decade 1870 to 1880 was 792,000,000 pounds; in the next decade it was 1,326,000,000. In 1898 it was 1,580,000,000. The enormous increase in the use of this stimulant is another indication of the high tension life we are leading nowadays.

NEW INSTRUMENT.

AN IMPROVED URETHROSCOPE.[1]

BY FERD. C. VALENTINE, M.D.,
OF NEW YORK;
PROFESSOR OF GENITO-URINARY DISEASES IN THE NEW YORK SCHOOL OF CLINICAL MEDICINE.

IT is too late in the scientific day to urge need of urethroscopy upon a learned society like this. Arguments in favor of making the urethra as accessible to sight and to operation as the external surface of the body would be as superfluous as diatribes against remedies advertised to "cure all urethral discharges." The question of urethroscopy now reduces itself mainly to the choice of instruments.

Three forms of urethroscope are in use. The simplest, of which the Klotz tube is the best type, requires a coordination between the head-mirror and the tube, which is difficult and requires much practice. Moreover, the reflected light cannot be as clear at the distal end of the

FIG. 1. FIG. 2. FIG. 3.

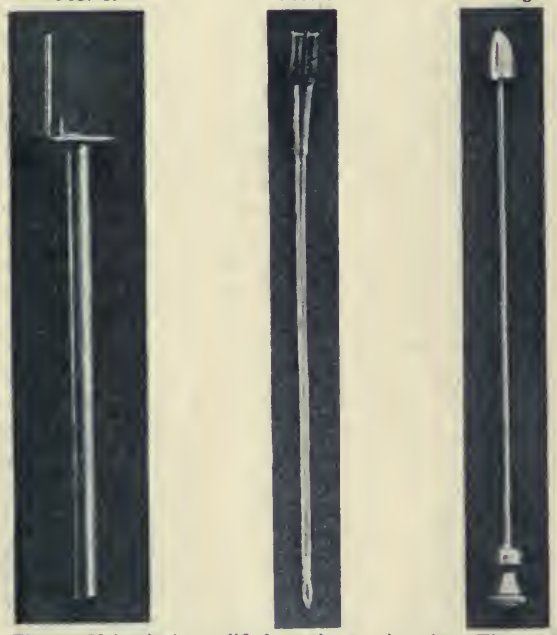

Fig. 1. Valentine's modified urethroscopic tube. The small spur on the disc is for attachment of the light-carrier, the large spur for that of the megaloscope.
Fig. 2. Light-carrier.
Fig. 3. Obturator for urethroscopic tube.

tube as it is at the visual end. Here a glare obscures vision. obliging the operator to look through a disturbing zone of more intense light, into one, six inches beyond, not by any means as clearly illuminated. The wonder is that Klotz has been able to do so much and such good scientific work with this instrument. The second class of urethral illuminators are those that use light projected directly into the urethra. The best of these is indisputably the Otis urethroscope. But it is a costly and somesome complicated instrument, for whose use one must needs have as much skill as its talented inventor. In the third class, the Nitze-Oberlaender urethroscope hitherto stood alone. A little incandescent wire is carried into the depths of the urethra, bringing the source of illumination almost directly into contact with the sites to be examined. The advantage is too manifest for discussion; it is simply in obedience to the physical law that requires intensity of illumination for accuracy of vision. The objections to this apparatus are, first, its cumbersomeness, entailed by the continuous current of water required to keep the lamp cool. Secondly, the minute lamp readily burns out, and entails difficulty for its replacement, especially if it occurs in the midst of an examination. Thirdly, the size and weight of the apparatus, as well as its fragility, demand that it be kept stationary, necessitating a separate room for the purpose of urethroscopy. Fourthly, even if the canal be excedingly large, the light must be removed from the tube to swab excess of secretion from the urethra and to make direct applications to diseased spots. Fifth, the apparatus is expensive, almost prohibitive to the majority of beginning practitioners.

The urethroscope I have the privilege of showing overcomes all the objections cited. Previous to describing it I may be allowed a moment to do an act of justice regarding its origin. While Dr. Henry Koch of Rochester and I were fellow-students in Berlin, I often discussed with him my thought of a sufficiently small but encapsu-

FIG. 4.

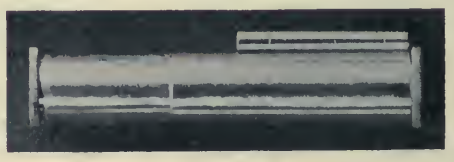

Fig. 4. Valentine's megaloscopic attachment for the urethroscope. Magnifies sixteen times.

lated electric light that would make urethroscopy easy and available to even novices in genito urinary work. I failed innumerable times to get manufacturers and workmen to make the light small enough for the purpose. Dr. Koch deserves the credit of having found and encouraged Mr. W. C. Preston of the Electro-Surgical Instrument Co. of Rochester to carry out my ideas on the subject. Under my directions the instrument has grown to its present conditions.

The apparatus consists of a small box containing four dry cells. These suffice for at least 350 deliberately performed, thorough urethroscopies. The price of a new set of cells is one dollar, making the cost of each urethroscopy less than one-third of a cent. The sources of electric light for other urethroscopes are either dip-batteries or accumulators. When they are exhausted from use or non-use, they require at least a day for recharging. The battery of my instrument can be replaced within five minutes. The tubes I use are similar to Kollman's modification of the Oberlaender tubes. Their burnished ends make it possible to examine the urethra from behind forward and from the front backward without giving the patient the slightest pain. The disc at the visual end of the tube is larger than those of other urethroscopes. A

[1] Presented at a meeting of the New York County Medical Society, held April 24, 1899.

small spur serves for attachment of the light-carrier, a large spur to hold a megaloscope, without which many minute urethral lesions would escape unaided vision. The light is encapsulated, making it possible to uninterruptedly examine all parts of the urethra and to perform all intra-urethral operations under the guidance of the eye. With a view to ascertaining whether under any circumstance the light might produce discomfort by its heat I have left it in the urethra as long as forty minutes. Not even the most sensitive patients complained of the slightest disturbance.

The entire apparatus is too simple to require any further description. A mere glance at its parts shows the purpose of each. I shall now have the honor of proving my assertions, through my assistants Dr. W. H. Prioleau and Dr. T. M. Townsend, who will show you the urethras of several patients as plainly as if the urinary channel were an open plain upon the hand or any other part of the surface of the body.

THERAPEUTIC NOTES.

The Subcutaneous Use of Mercury in Syphilis.—Lederman (*Therapeut. Vade-mecum Haut. und Geschlechts Krankh.*, Berlin, 1898) advises the subcutaneous method of mercurial treatment in syphilis in preference to the percutaneous, or method by inunction, on the grounds that it can be controlled with greater exactness, being entirely in the hands of the physician. It is more certain and rapid in its effect. Sublimate forms the most practicable soluble salt of mercury in use; injections of 1 c.c. (*m.* xv) of the 1–1000 solution daily for forty days will usually effect a cure. Larger doses can be given at longer intervals. One c.c. of the 2½-per-cent. solution twice a week for sixteen injections is also used, but the author does not recommend the use of five-per-cent. solutions. The more concentrated solutions are placed deeply within the muscles. In the majority of cases the injection is said to be painless, and it causes only a slight infiltration which slowly disappears. Neisser and his pupils use the insoluble salicylate of mercury in ten-per-cent. suspension in liquid paraffin. Cure is effected by eight ½-gram (gr. viii) injections at three-day intervals, followed, if well-borne, by six 1-gram injections at six-day intervals, 10 or 12 grams of the suspension being used altogether. Neisser uses a needle of special design which he allows to stand in aseptic liquid paraffin, and cleans the site selected for the injection with 1–1000 bichlorid or two-per-cent. lysol solution.

Drugs in Diabetes Mellitus. — This affection (Hare, *Practical Therapeutics*) is the result of disordered function, and is not a disease *per se*, but is a symptom of several disease processes. Therefore, we vary the use of drugs according to the patient's condition, the quantity of sugar in his urine, and the cause of his diabetes. If there is rheumatism we must use a combination of potash and salicylic acid, using of the latter from 10 to 15 grains three times a day. For gouty subjects the iodids and colchicum are combined—and if this combination proves ineffectual, arsenic with lithium citrate or carbonate must be employed. Arsenic alone is used in all forms of diabetes, and should be given in fairly large, constantly repeated doses. Opium is used oftener than any other drug; we cannot explain the manner in which it acts. Morphin, grs. ¼–½, three times a day, or codein, from 1 to 5 grains, three times a day, are the alkaloids to be employed, of which large ascending doses must be given. Some patients take 7 grains of morphin, or from 20 to 30 grains of codein, three times a day. These alkaloids are given best one hour after meals. Of course patients who take such doses must be carefully watched. Jambul is an uncertain remedy. The dose is from 5 to 30 grains, once to thrice daily, and gradually increased until 1 ounce has been given in twenty-four hours. If cachexia comes on, iron, strychnin, bitter tonics, and the lactophosphates of lime and sodium are to be used to support the nervous and circulatory systems. Plethora, produced by high living and little exercise, must be treated by restrictive diet, moderate exercise, and purgation to relieve engorgement. Thirst should be allayed by the use of acidulated or non-purgative alkaline waters. In all cases the well-established rules as to diet must be observed.

For Pannus. — Ohlemann ("Ocular Therapeutics," 1899) recommends Guthrie's ointment in the treatment of trachomatous pannus:

℞	Argenti nitratis	gr. xii
	Liquoris plumbi subacetatis . .	gtt. viij
	Petrolati	ʒ ii.

He advises also that if corneal ulcers complicate healing they should be scraped with a sharp spoon, and further treated with an iodoform ointment of the following formula:

℞	Iodoformi	gr. viiss
	Vaselini	ʒ iiss.

The Treatment of Acute Gout. — The limb should be placed horizontally, or in a position slightly elevated above the level of the body (Luff, in "Gout, Its Pathology and Treatment"). By means of a cradle the bed clothes should be raised from the affected part about which should be arranged warms packs of cotton wool saturated with a lotion, composed of sodium carbonate, ʒ iij; belladonna liniment, ʒ ij; tincture of opium, ʒ j, and water up to ʒ viij. A small portion of this lotion is mixed with an equal part of hot water, and this mixture is then poured on the wool arranged around the joint. The whole is then covered with oiled silk, and remains unchanged for eight hours. An initial dose of from 30 to 40 minims of wine of colchicum is followed by a mixture of from 10 to 20 minims of the wine with from 40 to 60 grains of citrate of potash, which mixture is given three times a day. Or the colchicum may be given in the citrate of potash as an effervescing mixture, using 30 grains of potassium bicarbonate to 20 grains of citric acid in each dose. The colchicum must not be pushed to the degree of producing extreme depression. After the inflammation subsides the doses of this drug are diminished until it is dispensed with. From 3 to 4 grains of blue mass are given on the first night, followed the next morning by

Epsom salts. Salines, containing sodium, should be avoided, for they diminish the solubility of sodium biurate. We must aim to relieve portal congestion rather than to produce powerful purgation. As anodynes, chloral, sulfonal, or trional, may be used. Or a full dose of extract of hyoscyamus, with blue pill may be given at night. Opium or morphin should be avoided. As to diet: For the first day or two, milk, with arrowroot or bread, or milk puddings made with rice, sago, or tapioca, or tea made with boiling milk instead of water, or weak tea with cold toast, thinly buttered, may be taken. The drinking of hot or cold water, or a mineral water (free from sodium salts) should be encouraged. The milk diet should be continued until the acute inflammation has subsided, when the patient may return to a more liberal diet, being careful not to take anything indigestible. Alcohol is contraindicated, except when there is a weak heart and a feeble irregular pulse. Beef teas and meat extracts and essences must be avoided at all times. They irritate the kidneys and interfere with the elimination of uric acid.

The Best Method of Prescribing Potassium Iodid.—The best method of administering iodid is doubtless in the form of an aqueous solution, in which one drop represents, approximately, one grain of the salt. To prescribe the two, ounce for ounce, results in a solution measuring eleven fluid drams, and one drop of this necessarily contains considerbly less than one grain of the iodid. To overcome this PROFESSOR HYNSON, quoted in *The Bulletin of Pharmacy*, makes the following suggestion: Dissolve 480 grains of the salt in 5½ drams of hot water, and then make up the solution to 8 drams with water. This always results in a solution representing one grain in each minim, and, approximately, in each drop. — *American Therapeutist*.

Rheumatic Joints Rubbed with Ice. — EWART (*La Semaine Med.*, April 12, 1899) says that if a rheumatic joint is not relieved of its pain by hot applications and the internal use of salicylates, that it should be rubbed with a piece of ice wrapped in flannel. This can be done by the patient himself. An almost immediate relief of the pain, and a delicious sense of coolness in the joint follows the application. It can be repeated two or three times a day if necessary. The cold friction also exerts a favorable action on the course of the disease.

Ecthol in the Treatment of Erysipelas.—DR. ROBERT C. KENNER reports twenty-two cases of erysipelas successfully treated by ecthol. This drug contains the active principles of *Echinacæ angustifolia* and *Thyja occidentalis*. The dose for an adult is a teaspoonful every two to four hours. In connection with this internal therapeusis he emphasizes the importance of abundant nourishing food and local treatment. For the latter he advises a solution of potassium acetate, 15 grains to the ounce of water, applied every hour or two.

The Soda Treatment of Diabetic Coma.—HERZOG (*Berl. klin. Wochenschr.*, April 3, 1899) places great confidence in the early administration of large doses of soda in diabetic coma. If possible the soda should be given before the coma develops. By attention to the reaction of the urine to ferric chlorid, and by watching for an increase in the amount of ammoniates, or of oxalates, the approach of danger may be known. Even when the symptoms of coma come on, it is still worth while to begin treatment with the soda, using from 3 to 10 drams of the bicarbonate daily. Herzog also advocates the subcutaneous use of either normal salt solution, or of a solution of bicarbonate of soda, 3 to 5 per cent., the injections to be frequently repeated. An excessive use of the soda may cause diarrhea, symptoms of heart failure, and bloody urine, but the experience of Naunyn, no less than that of the writer, shows that it may clear up an attack of coma, either temporarily, or in some instances, permanently.

Dionin as a Cure for Morphinism.—FROMME (*Berl. klin. Wochenschr.*, April 3, 1899) has found that dionin, a hydrochlorate of morphin ethyl ether, is serviceable as a substitute for morphin in those who are in the habit of using that alkaloid. There have been numerous attempts to find some drug which would take the place of morphin, and prove less harmful than it is to the user. Opium, bromids, and various narcotics have been tried with indifferent success. Cocain has been found to be far worse than the drug which it has been used to supercede. Codein has perhaps given more satisfaction than any one remedy, but it has its limitations. The plan of treatment advocated is to withdraw the morphin gradually, though not too slowly, testing the reaction of the patient meanwhile, by varying doses of dionin, and also of inert solutions, such as soda phosphate, or chlorid, in order to see how much reliance can be placed on the patient's description of the effect of the dionin, as well as to determine his susceptibility to large or small doses. When the amount of morphin taken daily has been reduced to ½ or ⅓ of a grain, it is well to stop it altogether, and substitute the dionin for it. One grain of the latter may be sufficient to quiet the unpleasant symptoms due to the stoppage of the morphin, or it may require four or five times that amount, according to the circumstances. Experience has shown that it is better to give an injection without waiting too long, as quiet will follow a small dose given in the beginning of the restlessness, while a much larger dose may be without effect if one waits until the storm is fully developed. Dionin is readily soluble in water (1 to 10), and particularly in warm water, so that it is fitted for subcutaneous use. It is manufactured by Merck.

Eucain in General Surgery.—Howard Lilienthal (*Annals of Surgery*, May, 1899) advocates the use of local anesthesia, using by preference eucain, even in such operations as castration, colotomy, and colecystotomy. He reports cases illustrating its use in all of these operations. The patient suffered no pain and in some instances assisted in the operation.

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SATURDAY, MAY 13, 1899.

COLD APPLICATIONS AND ICE-MASSAGE.

Esmarch's treatise on "The Use of Cold in Surgery" brought this therapeutic measure prominently into notice nearly forty years ago. Among the many additions to the practical side of medicine and surgery which must be attributed to Esmarch no one was nearer to the heart of the old veteran than the application of cold as an alterative and counterirritant in inflammatory processes as well as an allayer of pain. More recently the direct application of ice and of ice-massage in appropriate cases has attracted no little attention. In an article in the London *Lancet*, April 8, 1899, Dr. Wm. Ewart, Senior Physician to St. George's Hospital in London details some very satisfactory results from the direct application of ice by rubbing. His first experience with it was in a case of extremely painful rheumatoid arthritis of the hip, in which hot applications had utterly failed to relieve the pain. Hot air-baths had been tried and abandoned as ineffectual, and applications of dry heat in the form of hot sand-bags gave only temporary relief, which was followed by increased pain. The circumstance that the pain became worse after the hot applications suggested the use of ice. The treatment consisted in gently rubbing the hip, the gluteal region, and the painful knee with a small block of ice held firmly in the hand by means of a piece of flannel. The relief was immediate. Pain ceased very soon and after only a few minutes the patient's features relaxed and "he began to smile gratefully."

Dr. Ewart has found ice-massage of equally good service in other cases of rheumatoid arthritis and in pemphigus complicated by painful joint affections. He has proven its value as a means of relieving the severe pleuritic pain which commonly accompanies acute pneumonia of the base. In this last affection the relief of pain was immediate and the application was welcomed as a comfort. Relief is not always permanent, so that in special cases the frequency of the employment of the ice-massage will have to be arranged to suit the individual case. This method of employing ice seems promising and the approach of hot weather makes the use of ice cold applications generally much easier because there does not exist in the minds of patients and their friends during the summer so much prejudice and apprehension as to the catching of cold and production of chills.

TRENDELENBURG'S OPERATION FOR THE CURE OF VARICOSE VEINS.

There has always been, among general practitioners, a certain feeling of distrust of surgical intervention for the relief of varicose veins. Thrombosis and embolism have, after operation, occasionally thrust their unwelcome presence into the progress of the case to mar the convalescence and discourage the operation. In some cases the deep veins as well as the superficial set are dilated and tortuous so that seemingly successful operations often fail to bring relief. Finally the veins that enlarge in their functional endeavor to compensate for those that have been obliterated by the surgeon take on, at times, a varicose dilatation on the slightest indiscretion so that the old condition with all its annoyance recurs despite even extensive surgical measures.

Some eight years ago Professor Trendelenburg of Leipzig described a simple operation for certain forms of varicose veins of the leg which he had found very successful. As is well known in practically all cases of varicose veins of the leg if the patient be placed in a recumbent position and the leg

elevated the dilated veins at once collapse to more or less their normal size. Professor Trendelenburg pointed out that if pressure be then made over the internal saphenous vein in the thigh the patient may resume the upright position and the veins fail to refill to anywhere near the same degree as before; as soon as the pressure is removed the varices become once more distended. In all cases in which this condition of affairs obtains, where Trendelenburg's sign, as it is called, exists, Trendelenburg counseled operative intervention. His method consists in excising, between double ligatures, about an inch of the internal saphenous vein in the thigh. The rationalé of the procedure is to guard the varicosed veins of the leg from the pressure of the column of blood in the venous trunks above the point of entrance of the saphenous into the femoral vein.

So many operative methods had been tried for varices that the new suggestion was not received with any great enthusiasm. It has, however, been gradually working its way into clinical practice in a good many quarters. Dr. A. Pearce Gould, Surgeon to the Middlesex Hospital, England, details, in the January number of *International Clinics*, some most satisfactory results with the operation, and in the *Lancet* for April sums up his experience with the operation in fifty cases. In all of them marked relief from pain and discomfort followed the operation. The usual process of cure was a more or less rapid shrinking of the affected veins, in some cases to quite their natural size, in others to just short of that. In some of the cases thrombosis of the vein below the ligature occurred with subsequent obliteration, but in none of them did thrombosis occur above the upper ligature.

Patients were kept in bed only a week, that is, until thorough healing of the small incision necessary in the operation had taken place. In the annoyance caused the patient, the risks of infection involved, and the subsequent scarring, the operation is much more satisfactory than the more extensive or multiple excisions sometimes employed In none of the cases in which Trendelenburg's sign could be demonstrated was there a recurrence of the varices in anything like their former condition. Even when, in the absence of this sign, recurrence took place after operation patients were well satisfied with the results because of the relief that had been afforded them.

THE DANGERS OF ANESTHESIA AND HOW TO MEET THEM.

In general the subject of anesthesia has been studied too much from an exclusively theoretical standpoint. It is not, in any individual case, an ideal heart or respiratory center that is affected, but a particular patient with an organization peculiar to himself.

Professor Schrötter of Vienna, in talking recently at the German Medical Congress, an abstract of the proceedings of which appears in this number of the MEDICAL NEWS, of the development of cardiac insufficiency, said that a great deal depends in the matter of cardiac hypertrophy and dilatation on the idiosyncrasy of the patient, and the congenital strength of the heart muscle. As has now become the very general fashion in Germany he ignores the influence of the cardiac nervous mechanism entirely. This, however, is too restricted a view of the subject. There are congenital differences in nerve supply, as well as muscular conditions, that come in to complicate the problem. At least one pathologist has thought that in cases of sudden death from what might be considered heart failure, or reflex inhibition, he has found a pneumogastric nerve containing less fibers than are normally to be found in that nerve. The persistent irritation of the terminal fibers of the vagus in any organ seems at times to predispose to sudden arrest of the heart through its inhibitory mechanism. Especially is this true in chronic pulmonary irritation, as is produced even by chronic bronchitis. Hearts that are liable to suffer from neurotic conditions, even apart from any organic lesion, require more careful watching than others since the irritative excitability of their reflex nervous mechanism is such as to render them especially liable to sudden nervous arrest. In a word, the precautions necessary for safe anesthesia, include not merely a cursory examination of heart and lungs for organic disease, but demand of the careful anesthetizer considerable previous knowledge of the patient's pulmonary and cardiac history to enable him to anticipate accidents. Along this line, rather than in the employment of some new anesthetic chemical compound,

must come the improvement so long looked for in the mortality from anesthesia.

ECHOES AND NEWS.

Dr. Senn for Governor of Illinois.—Dr. Nicholas Senn is declared to be a candidate for the Republican nomination for Governor of Illinois in 1900.

Christian Science Did Not Cure.—Mrs. Charlotte Bargnet, sixty-seven years old, died at Mount Vernon, New York, on May 3d. She had been suffering for three months and had not during that time received medical attention. Instead, a Christian Scientist prayed over her. Coroner Banding of Mount Vernon has ordered an inquest.

Information Wanted by "The Jeffersonian".—*The Jeffersonian* Magazine, which is published monthly during the college year by the students of Jefferson Medical College, Philadelphia, desires to obtain a complete list of the alumni of the college and information concerning matters of personal interest to any of the members. Parties interested will please take notice.

Officers of the Association of American Physicians for 1900.—The election of officers resulted in the unanimous choice of the following gentlemen to serve for the ensuing year: President, Dr. E. G. Janeway; vice-president, Dr. William H. Welch; recorder, Dr. I. Minis Hays; secretary, Dr. Henry Hun; treasurer, Dr. J. P. Crozer Griffith; councillor, Dr. William T. Councilman.

Testimonial to Dr. McGauran.—At the last meeting of the New York Celtic Medical Society the members, through Dr. Francis J. Quinlan, who made the speech, presented to Dr. G. D. McGauran a magnificent service of silver as a testimonial of their high regard. Dr. McGauran goes to Lawrence, Mass., in consequence of his wife's health, where he will make his future home.

The New Skene Hospital.—Articles of incorporation of the society in Brooklyn known as the "Skene Hospital for Self-Supporting Women," were signed May 4th. It will be remembered that Dr. Skene resigned the presidency of the Long Island College for the purpose of assuming the management of this new enterprise. Dr. Charles Jewett has succeeded Dr. Skene as president of the college.

Special Train from New York to the Columbus Meeting.—The Committee on Transportation of the New York County Medical Association is arranging the rates, train service, etc., for the Columbus meeting of the American Medical Association to be held on June 6th, 7th, 8th, and 9th. Those intending to go and desiring to take advantage of such arrangements as may be made will kindly address, as soon as possible, Dr. Parker Syms, Chairman of Committee, 50 West 47th street.

Quinin Consumed by Americans.—The report comes from Washington that 125,000,000 grains of quinin have been consumed during the past year by American soldiers in Cuba, Puerto Rico and the Philippines. It is stated also that Americans generally are a race of quinin-eaters, consuming as they do one-third of the quinin of the world. The drug is used in the preparation of many patent medicines, tonics, bitters, cold cures, etc., and is dissolved in rum or spirits for external use as a hair-tonic.

British Medical Fortunes.—The *Lancet* corrects an impression which seems to have existed in England to the effect that Sir William Jenner's fortune of £375,000 was earned by him in the practice of his profession. As a matter of fact, a certain portion of this fortune was derived from trade and bequeathed to him by a brother. The *Lancet* names the fortunes left by eleven eminent English physicians and considers that a first-class brewer's fortune would be expected to amount to more than the aggregate total of these eleven medical fortunes or the brewer would be accounted a comparative failure.

Christian Science Treatment for Poisoning.—Dora England, twenty-two years old, of 105 Central Avenue, Newark, died in the Newark City Hospital on April 23d. She had been suffering from melancholia for several weeks. On the day before her death she took some Paris green. Her act was not discovered until two hours afterward when her mother, a devout Christian Scientist, called in Mrs. Van Houten, a Christian-Science leader in Newark, who spent much precious time in praying over the girl, until the mother in desperation called on Dr. J. T. Wrightson, who administered antidotes and sent the patient to the hospital. His efforts, however, came too late and the patient died.

Report Concerning "Embalmed" Beef.—The report of the Army Beef Court of Inquiry, appointed to investigate General Miles' charges regarding the food-supply of the army in the late war, was made public on May 7th. It finds that General Miles' statements concerning refrigerated beef are not sustained, and that the canned beef was good and fresh when delivered. The canned beef is considered, however, unsuitable for use as a field ration. General Miles is criticized for not promptly reporting to the Secretary of War his knowledge or belief that the food was unfit and caused sickness. General Eagan was sharply criticized for purchasing such large quantities of canned beef as he did. It is recommended that no further proceedings be held.

The Lenval Prize.—This prize, consisting of the interest on 3000 francs ($600) which has accumulated between one International Otological Congress and the next, was founded by Baron Léon de Lenval, of Nice, and will be awarded at the next meeting of the Congress, to be held in London, August 8 to 11, 1899. It will be presented to the author of the most marked progress bearing on the practical treatment of affections of the ear, or to the inventor of any new apparatus which is readily portable and improves considerably the hearing power of deaf persons. All persons desiring to compete for the prize are requested to communicate without delay with Mr. Creswell Baber, 46 Brunswick Square, Brighton, England, stating the facts on which their applications are based.

The Infectiousness of Colds.—The treatment of tuberculosis by fresh air and good diet is now thoroughly recognized as the most beneficial one, and everywhere sanatoriums conducted on these principles are springing up. But it should be remembered that if proper care is taken of children when young that there would not be the need of sanatoria there now is, as in many instances the seeds of consumption can be eradicated by judicious bringing up. It is a fact, both instructive and interesting, that in many of the coldest portions of the globe colds are unknown. Nansen and his men when in the Arctic regions, although they underwent exposure of every description, never suffered from colds, but no sooner had they set foot on their native shore of Norway than they one and all caught cold. The experience of other Arctic explorers is the same. It seems, then, probable that after all there is something in the theory that colds are infectious. —*Pediatrics.*

Hospital Accused of Overcharging.—The Commissioners of Accounts, in a report submitted to the Mayor of New York City on May 4th, state that the New York Post-Graduate Medical School and Hospital made heavy overcharges against the city during 1898. They recommended that the matter be placed in the hands of the Corporation Counsel. During the year 1898 there were 11,236 free-days treatment at the hospital. The Mount Sinai Hospital receives forty cents a day for free treatments and the New York Polyclinic Medical School and Hospital receives one dollar. By applying the former rate, the Commissioners find that the Post-Graduate Hospital charged $20,505 too much, and by applying the rate paid to the Polyclinic the excess is found to be $13,764. The Post-Graduate Hospital receives $30,000 a year from the city, but there is no stipulated rate for free-days treatment. It would seem, therefore, that the Commissioners have no legal grounds for complaint.

Effects of Intense Cold upon Intellection.—Exposure to extreme degrees of cold has a stupefying effect upon the brain. Nearly every one exposed to cold for a long time experiences a weakening of the will power, and often a temporary loss of memory. This fact probably in its greatest measure was observed by the French in evacuating Moscow. Among the recently discovered papers of a German physician who was one of the retreating party are accounts of this retreat, in which it is stated that the first effect of the cold was the weakening of memory, which affected healthy men as well as those who had already suffered the hardships of constant exposure and extreme fatigue. When the mercury dropped to 36 degrees below zero many soldiers could not name their accoutrements. Some of them forgot the name for food and perished from starvation. Very many could not remember their own names. Others showed decided symptoms of mental derangement and later became insane.

Typhoid in Army Camps.—At the session of the Association of American Physicians which was held in Washington on May 3d, Dr. Victor C. Vaughan, one of the three physicians appointed by the War Department to investigate the cause of the typhoid-fever epidemic in military camps during the war, read a paper which may be considered a preliminary report of that board. Surgeon-General Sternberg practically endorsed the conclusions reached by Dr. Vaughan. It was held that the spread of typhoid among the troops was due almost entirely to camp pollution, and that the principal agent in the distribution of the germs was the house-fly. The army surgeons, both volunteer and regular, are criticised for erroneously diagnosing mild cases of typhoid as malarial fever, and for their aversion to calling typhoid by its right name. Thus there resulted a lack of proper precautions to prevent the spread of typhoid. In Dr. Vaughan's opinion practically all the cases reported as malaria were mild types of typhoid. This opinion is based on the uneven distribution of the cases among regiments camped side by side, the unofficial statements of regimental surgeons, the results of blood examinations, the fact that the so-called malarias did not yield to treatment with quinin and the high rate of mortality which corresponded with that from typhoid and not from malaria. It is believed that typhoid fever prevailed in ninety per cent. of the volunteer regiments before they reached the Government camps, "So widespread is typhoid fever in this country," said Dr. Vaughan, "that in assembling a regiment of volunteers the probabilities are that one or more in the regiment will be found infected with this disease." It was found that the water-supply at the various camps was generally pure and wholesome.

CORRESPONDENCE.

RELAPSES OF MEASLES.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—I have just read your article on "Second Attacks of the Infectious Fevers." The inhabitants of the village in which I live have just begun to recover from a very widespread epidemic of measles. The epidemic was of some interest, and I deem it worthy of reporting from the fact that it was very widespread throughout the village, and secondly, because of two cases of relapse similar to those reported by Felty from Vienna, which were unique in my experience, and similar incidents of which I had never heard before reading your article.

The first case I cannot vouch for since it did not occur in my own experience. I only saw the case during the primary attack. The patient was a boy of about seventeen years of age, and I saw him with a colleague during the height of the primary eruptive stage. It was a typical case of measles. I saw him no more after this, but it was reported to me that he got along nicely, made a good recovery apparently, the eruption entirely disappeared, and he was out again for about one week when the relapse occurred. The eruption returned though not so severely as at first, and he was again confined to his room.

The second case, which happened about one month after the first, and during the latter part of the epidemic, was that of a young girl about fifteen years of age. Her pri-

mary attack occurred some three weeks previous to her relapse. At that time the eruption with other typical symptoms of measles occurred. She then apparently completely recovered and went about her duties and pleasures with no indication of ill health. About three weeks after her primary attack she drank a glass of iced lemonade, and almost immediately afterward the eruption began to make its appearance on her face. It spread over her face, body, and arms, by the following day, and was accompanied by nearly all of the associated symptoms which go to make up a typical case of measles.

S. L. Coleman, M.D.

Uniontown, Alabama, May 5, 1899.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

MAYOR ASHBRIDGE RESCINDS HIS ORDER RELATIVE TO RESIDENT PHYSICIANS OF THE PHILADELPHIA HOSPITAL—OVARIAN CYST OF THIRTY-FIVE-YEARS' DURATION—OPERATION FOR PERFORATION IN TYPHOID FEVER—OBITUARY—HEALTH STATISTICS.

Philadelphia, May 9, 1899.

Mayor Ashbridge's order that hereafter none but residents of the city shall be appointed house physicians to the Philadelphia Hospital, which service is generally regarded as the most valuable training to be obtained in this city, has brought forth such a storm of protests that he has been compelled to rescind it. What possible motive could have induced him to promulgate this it is hard to say, for neither the patients nor the city at large would have their best interests served in thus closing the doors of famous old "Blockley" to general competition. There are many drawbacks to the city's endeavor to again become the preeminent medical center of this country, and to gradually limit the number of hospital appointments is not conducive to an increase in the medical student population which is now estimated at close to 2000. It is only too well known that many of the hospitals, notably, two of the largest, the German and the Pennsylvania, make no pretence of having competitive examinations for appointment, while others do so nominally only. If the Mayor is anxious to reform the prevailing methods at Blockley he might begin by dismissing from the Board of Examiners men who hold teaching positions in medical colleges, thus giving all graduates an equal chance, which is hardly possible under the present conditions.

Complaints have been frequent that men teaching along certain lines ask questions peculiar to their individual work and views, and that these complaints are well founded can be easily seen from a perusal of the questions asked in previous years, and especially those in 1898. It is to be hoped that this much-needed reform will soon be made so that "medical-school politics" will no longer be a factor.

At the last meeting of the College of Physicians, held May 3, 1899, Dr. De Forrest Willard read a report prepared by himself and Dr. S. M. Wilson of "A Case of Ovarian Cyst of Thirty-five-Years' Duration; Patient Dying of Influenza Bronchitis at Seventy-four Years of Age," in which Dr. Willard stated that its chief interest was in the long and unusually uninterrupted course as showing the length of time a woman can live when malignancy does not enter the case as a factor. The case was an evidence also of the conservative views on gynecology, held some thirty years ago, and it was not strange, therefore, that removal was not advised by Dr. Willard when he saw the case for the first time.

Dr. Willard tapped the cyst with relief to the woman for a period of nearly two years, when tapping again became necessary, and was resorted to quite frequently thereafter. At the post-mortem the intestines were found to be adherent to the cyst which sprang from the left ovary, and was so adherent to the belly-wall as to show how impossible removal would have been; the latter formed part of the anterior wall of the cyst.

At the same meeting Dr. William J. Taylor read a report of "Two Cases of Operation for Perforation in Typhoid Fever." According to Cushing's statistics he showed that ten per cent. of the fatalities in typhoid fever are due to peritonitis from perforation, and during the late war, ten per cent. of 2000 patients, or 200, might have been operated upon with some chance of success, but were not. Cushing's report is not strictly accurate, however, for Dr. Taylor knew of at least one soldier not mentioned, Dr. Willard's case, who had been operated upon though with a fatal result. The recoveries after operation are few, but twenty-seven per cent. is reported by Cushing as being a fair estimate. Of the two patients under Dr. Taylor's care, one was operated upon four hours, the other two hours after a diagnosis of perforation had been made. The first case occurred in a man of thirty-four who had had hemorrhages. At the time of perforation his temperature dropped from 102.6° F. to normal, his belly became distended, there was severe pain over the right side of the abdomen, liver dulness had disappeared, and his pulse was so weak as to be imperceptible. During ether anesthesia his pulse improved. A perforation in the ileum, the size of a lead-pencil, was found, and after repairing it and washing out the belly with sterile salt solution, an attempt was made to close the abdominal wound, but the patient died before this could be accomplished. Dr. Taylor's second case occurred in a man on the twenty-fourth day of the disease. The temperature fell from 103° F. to normal, pain and board-like rigidity of the abdomen were present, and liver dulness had not disappeared. After opening the belly evidences of septic peritonitis were found, and a perforation in the ileum eight inches from the cecum. The ulcer was invaginated, the abdomen washed out with saline solution and drainage instituted, but the man died twenty-one hours later from septic peritonitis.

Dr. Taylor doubts the wisdom of Dr. Keen's advice to wait for reaction, and would operate immediately after a diagnosis is made. He doubts the importance of the absence of liver dulness as a sign of perforation, but lays stress upon the importance of recognizing the preperforative stage and Finney's symptoms of pain, nausea, vomiting, and leucocytosis. He outlined the surgical technic of these operations, and stated that in his opinion the

only contraindication to operation is a moribund condition of the patient.

In the discussion which followed Dr. H. A. Hare said that he was surprised to find so much stress laid upon pain as an all important symptom, for many cases have recently been reported, especially by French physicians, in which pain was absent, and on the other hand, in many cases in which perforation has been excluded because of the absence of pain, death has been found at post-mortem to have been caused by perforation. He quoted two cases of his own in which pain was absent, and stated his belief that this is very likely to occur when the perforation is a minute opening. Dr. Hare agreed with Dr. Taylor as to the slight value to be attached to the presence or absence of liver dulness, and quoted a case where tympany over the liver was due to a distended colon. As to the preoperative stage, most physicians have all they can successfully accomplish in making a positive diagnosis of perforation after it has occurred.

Dr. Davis called attention to the difficulty of making a diagnosis of perforation before the surgeon considered it too late to operate, and cited some cases illustrative of this perplexing problem. He said he, for one, would be only too glad to know a way of determining the preperforative stage, and agreed with Dr. Hare as to the difficulty of determining perforation early.

Dr. Joseph J. Kirkbride, for more than twenty years physician in the Out-patient Department of the Pennsylvania Hospital, died last week aged fifty-seven years. He was the eldest son of Dr. Thomas S. Kirkbride, who for forty years was superintendent of the Insane Department of the Pennsylvania Hospital, or "Kirkbride's," as it was generally known. He graduated from the University in 1872, and was well known in medical and scientific circles, being a member of the Academy of Natural Sciences, College of Physicians, etc.

Another death of last week was that of Dr. D. L. Beaver, Reading's oldest physician, who died at the age of eighty-four. He graduated from the Pennsylvania Medical College in 1841, and practised continually for fifty-eight years.

The total number of new cases of contagious diseases occurring in Philadelphia during the week ending May 6th was 278, reported as follows: Diphtheria, 70 cases with 14 deaths; scarlet fever, 39 cases with 2 deaths; typhoid fever, 169 cases with 26 deaths.

OUR LONDON LETTER.

[From Our Special Correspondent.]

CONFERENCE OF FRIENDLY SOCIETIES—RESISTANCE OF RATS TO DIPHTHERIA—DEATH OF SIR WILLIAM ROBERTS—OFFICERS BETTER MEN THAN RECRUITS—RATIONALIZATION OF GERMAN SCHOOL SYSTEM—THE LONDON POLYCLINIC—LIVERPOOL SCHOOL OF TROPICAL MEDICINE—THE MODERN HIPPOCRATES.

London, April 31, 1899.

The twentieth annual conference of the Friendly Societies Medical Alliance has just been held at Leamington. This is the dragon which has been devouring the income and prospects of the English general practitioner at such an appalling rate of late years. It is, therefore, a matter of some gratification to note that the Chairman in his address expressed regret at the clashing which had occurred between the societies and the profession in certain districts, admitted that the agents of the Alliance had been at fault in some respects, especially as regards "touting" for new members, and stated that conferences were being held with the General Medical Council for the purpose of agreeing upon a harmonious and mutually advantageous course of action.

A system of medical attendance by the year, arranged in advance, has many things to recommend it if, indeed, it be not the ideal one, and there ought ultimately to be no more difficulty in fixing a yearly fee at a fair and reasonably remunerative rate than a daily or weekly one as at present.

Our bacteriologic brethren are hard at work all along the line trying to prove that resistance is an important factor in disease, and immunity either accidental or relative. One of the latest essays in this direction is that of Louis Cobbett, who has just reported from the Cambridge Pathological Laboratories a series of studies upon the immunity of the rat to diphtheria.

After a number of careful experiments he comes to the conclusion that this well-known immunity is "only relative" and that rats succumb to the poison if only sufficiently large doses are used. But as this dose was found to be necessarily from 1500 to 1800 times the amount fatal to a guinea-pig of twice the weight, in other words, that the rat's resistance is from 3000 to 3600 times that of the "normal standard" of the laboratory, the guinea-pig, it is obvious that to call this "relative" is a mere trifling with terms. One might just as well talk of the relative immunity of the human species to bread and cheese, because 3000 pounds of the compound introduced into the system would produce fatal results.

The death of Sir William Roberts has painfully affected the whole community. Upon all hands are heard tributes to his brilliancy, charm, and nobility of character, and regrets that he could not have been longer spared. Although within a year of the traditional "three score and ten" he was still so fresh, so vigorous, so keenly alive, both mentally and physically, that had it not been for the ruthless onslaught of that cruelest foe of humanity, cancer, he might have continued in his splendid service of the profession, of the race, for at least a decade or a decade and a half longer. By a strange and bitter irony of fate he, who had devoted the better part of his life to the study of the disorders of digestion, and relieved the gnawing, gastric pangs of thousands of other men, died at last of cancer of the stomach. Born in 1830, he graduated at University College, London, and settled in Manchester for the practice of his profession. His fame grew so rapidly that in less than ten years he was invited to deliver the Goulstonian lectures at the Royal College of Physicians and was elected a fellow. His subject was the "Digestive Ferments" and the brilliant success achieved was more than sustained by his second course, a few

years later, upon "Dietetics," at Owens College, these two courses being combined and incorporated in his now classical work, "Digestion and Diet." About 1880 he came to London and a few years later gave his famous Croonian lectures on the "Chemistry of Uric Acid, Gravel, and Gout." Then came his knighthood and all the "Blue Ribbons" of the profession, one after another, the Presidency of the College of Physicians, membership in the General Medical Council, the Opium Commission in 1893, and many other honors.

A recent report of the War Office gives a most interesting comparison between the physique of the officers and that of the enlisted men. It has long been the conviction of the writer that the popular and traditional impression as to the "sturdiness" of the lower strata of society and "punyness" of the upper was utterly mistaken, and that the "better classes" were better in physique as well as in social position. The measurements given in this report fully confirm this view, as the officers, on entering the army, average two inches taller, from two to five pounds heavier, and have two to three inches greater chest girth than the recruits. And this, too, in spite of the fact that the men average nearly two years older than the officers at enlistment. Generations of "breeding" of even unconscious selection and better environment tell upon the human animal just like any other.

The German Department of Education, with its customary sagacity, has made practical application of the valuable studies of Drs. Springer and Kemsies upon fatigue in school-children and has just issued a circular laying down the following admirable rules: (1) All scientific studies and heavy work to be pursued in the morning. (2) Not more than four hours systematic work per diem and three-hours' "nooning." (3) Subjects to be taken in "fatigue order," the heaviest earliest in the day, beginning with mathematics, foreign languages, and formal sciences, and ending with geography and natural history, the last study being regarded as actually refreshing, instead of fatiguing, and capable of preparing the children for another additional study period.

The formal opening of the Liverpool School of Tropical Medicine occurred on April 22d. Lord Lister presided and Sir Wm. Broadbent, Michael Foster, Clifford Allbutt, Sims Woodhead, and other celebrities were present. The school has been fortunate enough to secure, as its chief lecturer, Major Donald Ross of "mosquito" fame, and already has an income assured to it, chiefly by private subscription, of £1600 a year.

Meanwhile the Government bantling is preparing to climb into the marsupial pouch of the dear public and announces the receipt of two superb Royal donations of £200 from the King of the Belgians, and £1000 from the Secretary of State for India. So that the gap to be filled by private charity is now only $59,500.

The first clinical demonstrations at the new Polyclinic were held last week and were attended by some eighty or ninety practitioners and twenty consultation patients. The formal opening will be held May 1st and the lectures and laboratory work will begin two days later.

The death is announced of a prominent member of the profession, who is better known by his work than by name, Dr. Jukes de Styrap, author of the famous "Code of Medical Ethics."

The Government has at last announced its intention of bringing in an amendment to the Factories Act, restricting the use of lead glazes in accordance with the recommendations of Professors Thorp and Oliver, given in a former letter. So a check is at last to be placed upon the disgraceful "saturnalia" of the English potteries.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

A NEW OPERATION FOR EXOPHTHALMOS—TREATMENT OF CONGENITAL TORTICOLLIS—CARE OF INFANTS DURING WEANING—OPERATIONS UPON THE INSANE—A NEW METHOD OF RESECTING THE SUPERIOR MAXILLARY NERVE—ON THE USE OF COLD BATHS IN MENINGITIS—RHUEMATISM OF THE SACROILIAC SYNCHONDROSIS—POISONING FROM ORTHOFORM AND FROM ANTIPYRIN—AN ATTACK OF SYPHILIS IN A MAN WHO HAD HEREDITARY EVIDENCES OF THE DISEASE.

At the Academy of Medicine, April 4th, CHAUVEL discussed a new operation for exophthalmos which has been brought forward by Roure. The conjunctiva is divided around the cornea, separated from the sclerotic, and brought together above the cornea by a purse-string suture. Some days later, when adhesions have formed between the conjunctiva and the sclerotic, the redundant portion of the conjunctiva is cut off. As a result of this operation in rabbits there was a considerable amount of exophthalmos. As exophthalmos is only a symptom, the operation would seem to have little application in man, except in those cases in which the eye has been displaced forward as a result of a traumatism.

At the meeting of April 11th, BERGER spoke of the treatment of congenital torticollis. He presented a patient ten years of age, upon whom he had performed section of both heads of the sternomastoid muscle, following the operation by massage and molding exercises, flexion of the head, twisting of the neck and pressure on the spine with the child in dorsal decubitus or suspended, until the torticollis had been completely overcome and the curvature of the spine almost entirely so. He laid stress upon the importance of the after-treatment in such cases. The trouble was due to a traumatism of the neck during delivery. The presentation was a pelvic one, and there was noticed upon the right side of the neck, some days later, a swelling, which disappeared little by little, leaving a vicious position of the head, which increased until the child was in the condition above referred to.

PINARD said that congenital torticollis was due to a hematoma in the muscle followed by retractions, which brought about the deformities. The real cause is, therefore, not congenital, but is the traumatism of the muscle produced during delivery. If this is recognized and treated at once the unfortunate consequences may be avoided. The speaker mentioned five cases in which orthopedic treatment was immediately instituted, and in which as a consequence the extreme contraction was prevented.

SAINT-PHILIPPE said that weaning is a period of danger for most children, because it is usually badly carried out, so that gastro-intestinal dyspepsia with diarrhea frequently results. Milk is often badly borne, and if so, it should be suppressed entirely and its place be taken by barley-water, thin gruels, or albumen-water, with a little brandy. At the same time massage of the whole body should be practised. Gradually the child is to be transferred to a more solid diet, and the system strengthened by warm salt baths, injections of salt solution, inhalations of oxygen, and the fresh-air cure.

At the Surgical Society, March 29th, PICQUE said that operations ought not to be performed upon insane persons unless there was a strong probability that a decided benefit would follow. Experience had shown him that 88 per cent. of the female insane had some form of genital trouble, and in many instances the relief of that lesion exerted a favorable effect upon the mental condition of the patient. He cited cases in which the melancholic delirium of a patient entirely disappeared after the removal of an ovarian cyst. In instances of this character the mental affection had accompanied or followed the lesion of the body, and the latter was known to the patient. In other patients the mental trouble had preceded the knowledge of the surgical condition, but the latter had aggravated the former. In such cases a cure of the mental malady may also follow surgical intervention. In a third group of cases the convalescence from a mental difficulty was hindered by a metrorrhagia, or profuse leucorrhea, etc. The relief of the latter condition hastened the recovery from the mental disorder. There are also well-marked cases of mental disease, in which the existence of pelvic disturbance is unknown to the patient, and unassociated with her delirium. In such cases the cure of the surgical lesion may have no effect upon the condition of the mind. Picque operated upon 17 insane persons and 1 hysterical one, and treated 4 others without operation. Of these 22 patients, 12 recovered entirely, both mentally and physically; 6 were benefited, 3 were not improved, and 1 died as a result of operation.

At the session of April 12th, POIRIER described a new method of reaching and resecting the superior maxillary nerve. Examination of fifty skulls, and numerous dissections showed him that the pterygo-maxillary fossa, through which the nerve runs, is always a little above the level of the zygomatic arch. His plan was, therefore, to enter this fossa by an incision made wholly above the arch so as not to cut away any portion of it. He advocated resection of the nerve, and not its avulsion, as less likely to cause subsequent neuralgia.

At the Medical Society of the Hospitals, April 7th, RENDU related the history of a young man who had died of cerebrospinal meningitis. At autopsy the sulci of the brain were filled with a thick yellow pus, almost like butter, containing in great numbers cocci in short chains. As death approached the symptoms were well marked. The head was thrown back, there was photophobia, and a constant incoherent delirium without convulsions; but in the early part of the illness, when the symptoms were those of stupor, headache and cervical pains, and diarrhea, the case was thought to be typhoid and the patient was treated with cold baths, which were ill borne.

NETTER said that it is rare to find a streptococcus in cerebrospinal meningitis. He knew of only two reported cases. It is the rule that cold baths are not well borne, according to his observations. Warm baths on the other hand, at 38° to 40° C. (100° to 104° F.), are acceptable to a patient with cerebrospinal meningitis, and relieve the pain and contractions. They should be given three times in twenty-four hours.

At the session of April 19th, GALLIARD mentioned three cases of rheumatism of the left sacroiliac articulation. In one patient the rheumatism preceded a pneumococcic meningitis without pneumonia; in the second case it developed after an intestinal paresis which followed typhoid fever, the rheumatic pain existing along the vertebral column, as well as in the joint; while in the third case the rheumatism was gonorrheal and lasted four weeks, with pains along the sciatic nerves.

At the Society of Dermatology and Syphilography, April 10th, BROCQ mentioned some accidents which followed the use of orthoform. He applied a solution of this drug for the relief of prurigo, and found that it produced in one case an active irritation of the skin. In another patient an ointment containing 5 per cent. of orthoform produced an eruption which lasted fifteen or twenty days, and was accompanied by considerable dermatitis. He dusted orthoform over the vulva and between the thighs of a young woman and produced not only local irritation, but a well-marked eruption of infiltrated nodules upon the face, body and limbs. In an infant he had observed symptoms of intoxication follow its use.

FOURNIER mentioned two cases of swelling of the end of the penis, with large discolored blotches due to the use of antipyrin.

JULIEN saw a young man of twenty-two years, with a chancre on his penis and a secondary syphilitic eruption obtained from coitus with a syphilitic woman. The patient presented numerous evidences of hereditary syphilis, such as absence of the nails, chronic glossitis, affection of the eyes, etc. His father had contracted syphilis six months before marriage, but his mother remained free from the disease.

SOCIETY PROCEEDINGS.

THE SEVENTEENTH GERMAN CONGRESS OF INTERNAL MEDICINE.

Held at Carlsbad, April 11 to 15, 1899.

[Specially Reported for the MEDICAL NEWS.]

THE President, PROFESSOR QUINCKE of Kiel, opened the Congress, after which Count Condenove, Governor of Bohemia, delivered a short address of welcome.

The first paper, entitled "Insufficiency of the Heart-muscle," was read by VON SCHROETTER of Vienna. He said that the reserve energy of the heart is of congenital origin, and on the amount of this depends the prognosis in valvular disease. With a functionally strong muscle, valvular disease may be borne for years without symp-

toms, but if the reserve force is small, insufficiency may manifest itself even when no anatomical lesion can be discovered. Moreover, as the heart experiences no feeling of weariness, it happens that many "who employ their muscles too much and their intellect too little" in the different sports realize only too late the irreparable injury to the heart-muscle. On account of its wonderful power of compensation the heart finally answers the increased demand and hypertrophies; but this is a pathologic condition, and always remains such, leading sooner or later to complete exhaustion of the organ. Besides an insufficiency due to overwork of a congenitally weak muscle, the speaker recognized one due to nervous causes, manifesting itself usually in tachycardia. He illustrated this by a clinical example of what is ordinarily called "broken heart." A woman, aged thirty years, felt so deeply the loss of her husband that her only wish was to follow him. Although up to this time she had been perfectly healthy, she now began to decline, developed symptoms of heart weakness, tachycardia, etc., and after a short period died.

MARTIUS of Rostock considered fatty infiltration and degeneration of the heart muscle less serious than ordinarily assumed. He insisted that the impulse of the heart against the chest wall takes place during closure of the valves. He called attention to the fact that normal, healthy youths show little or no apex impulse, while feeble hearts frequently produce a diffuse, well marked one. From this he concludes that the normal heart works without friction, that is, without striking the chest wall.

SCHOTT of Nauheim dealt especially with chronic heart disease of youth. He called attention to the common difference of the seat of lesion in youth and old age; in the latter period arteriosclerosis leads to affection of the aortic valves, while in youth these are rarely diseased. For treatment he employs baths, suitable diet, and regulated exercise.

HIS of Leipsic regretted our lack of knowledge in regard to the nervous mechanism of the heart. He described an unusual phenomenon that he recently observed: For about forty seconds the ventricles ceased to beat, the heart-sound, the impulse, and the pulse disappearing, but a rhythmical sound was evident over the auricles, and a venous pulse noticeable in the neck. The ventricular contractions returned, but the contractions of the auricles continued more frequent for some time.

POEHL of St. Petersburg described the products of cardiac exhaustion as belonging to the xanthin group, but said they are more readily oxidized. In some cases of heart disease the urine is excreted under a reduced osmotic pressure, and it is possible that mineral waters may increase this and so relieve the heart.

"Leucemia and Leucocytosis" was the title of a paper by LOEWIT of Innsbruck. He described two forms of ameba which he had discovered in the blood of leucemic patients, and which he considers to be the cause of the disease. The one found in myelogenic leucemia he designated "hemameba leucemia magna"; that of lymphatic leucemia, "hemameba leucemia vivax." Though unable so far to cultivate these parasites, he has succeeded in inoculating lower animals with the disease, the animals dying after several months with all the symptoms of the disease, associated with the invariable presence in the blood of the micro-organisms. On the ground of the parasite being an ameba he recommends a trial of quinin in leucemia, though his own experience with it is too slight to form conclusions.

MINKOVSKI of Strassburg regretted that so little is known of the connection between the chemistry of leucemia and its clinical symptoms. Renewed interest has lately been developed in the study of the formation of uric acid on account of the increase in leucemia and leucocytosis. The value of therapeutics has become more evident in the study of leucocytosis, since it is possible by different tissue extracts, products of bacteria, and drugs to increase or diminish the number of leucocytes. It will not be long before Virchow's saying of fifty years ago, "I demand a place in pathology for the colorless corpuscle," will also apply to therapeutics.

GOLDSCHEIDER of Berlin spoke of the importance of Löwit's discovery, but doubted the facts. GRAWITZ of Berlin reported some interesting experiments on leucocytosis in animals. KUEHNAM of Breslau described some renal changes in leucemia. KRAUS of Gratz said that he had observed in his cases of leucemia an increase in the fibrin factors of the blood. LOEWIT closed the discussion by saying that he had not given his methods for staining and inoculation in detail because they would shortly be published, and from the publication there would be less likelihood of misquotation and error. (At the beginning of the afternoon session he demonstrated the hemamebæ microscopically. They were situated within the leucocytes near the wall, and were stained red, while the cell itself was counter-stained blue.)

The next paper, on "The Diagnosis and Treatment of Aortic Aneurism," was read by SCHMIDT of Frankfort. He insisted that not enough stress had been laid on the Oliver-Cardarelli symptom "tugging" as an early sign, and also recommended the habitual use of the Röntgen-rays. Out of 54 cases that he had observed, 52 of which were in men, he found evidence of syphilis in but 16. In certain parts of Bavaria, he said, where women do the physical work of men, aneurisms are as frequent as among men. In the way of treatment he advised potassium iodid, rest in bed for about eight weeks, and the "starvation diet" recommended by Tufnell thirty years ago. In this dietary the food is cut down one-half, and water limited to 350 grams daily.

HAUSEMANN of Berlin stated that in sixty-four cases of aneurism in which he performed the autopsy he had found evidence of syphilis in but 12.

SENATOR of Berlin believed the Röntgen-rays necessary only in aneurisms of the descending aorta. He detailed a case in which he was following a French method, namely, injecting into the sac solutions of gelatin.

QUINCKE of Kiel thought that the connection between syphilis and aneurism, in view of the success attending the potassium-iodid treatment, is greater than the previous speakers had admitted.

CZERNY of Breslau in a paper on "Hyalin Degeneration," said that it results from the destruction of cell protoplasm. It can be produced artificially by inducing suppuration. In cases of cachexia it changes into amyloid material, and in these cases may also be carried in the circulation and deposited in and around the blood-vessels, especially of the brain.

In a paper on "Diseases of the Gastro-intestinal Tract" EWALD of Berlin described a form of appendicitis coming on with general gastro-intestinal disturbances without any local symptoms whatever. He detailed a case treated as hysteria for more than a year. The patient was finally operated on by Sonnenburg, who found adhesions, ulceration, and suppuration about the appendix.

PETERSON of Heidelberg gave the indications for surgical interference in cases of non-malignant disease of the stomach. ESCHERICH of Gratz and JACOBI of Berlin spoke on the virulence and peculiarities of the bacillus coli communis.

VAN NOORDEN of Frankfort, in a paper on "Diseases of the Kidney," insisted strongly against the common treatment of contracted kidney. He said that diets of milk and alkaline mineral waters tend only to overload the already diseased blood-vessels and oppress the heart.

In a contribution on "The Origin of Fat" ROSENFELD of Breslau claimed that carnivora possess very little fat because they practically only get whatever little happens to be on the meat, and albumen is not convertible; that ruminants, on the contrary, show much more fat, the carbohydrates being changed into fat. The fat of different animals differs in accordance with the kind of fat consumed and from what produced. Fish can be made to take on mutton fat by feeding it to them for a long time. He, therefore, believes that human fat, too, differs according to its mode of origin, the fat of the Eskimos giving the characteristics of fish fat, and that of Polynesians those of cocoa butter.

"A New Micro-organism for Syphilis." A paper with this title was contributed by NIESSEN of Wiesbaden. He has cultivated a bacillus from the blood of syphilitics, the inoculation of which, he claims, into monkeys and pigs produces symptoms similar to those seen in the human being, namely, a peculiar rash of the skin and mucous membranes, swelling of the lymph glands, and finally fatal disease of the nervous system.

SPITZER of Breslau, in a paper on "Uric-Acid Formation," claimed that his investigations point to the fact that uric acid is not produced in the muscles, connective tissue, or the kidneys, but probably in the liver or spleen.

WIENER of Prague and JACOBI of Berlin said that independently of one another they had reached the same conclusion.

In a paper on "Tetanus Serum" BLUMENTHAL of Berlin mentioned his earlier denial of the efficacy of tetanus serum. Experiments in the meantime, in which he had injected the serum directly into the brain, or into the cerebrospinal fluid of goats afflicted with the disease without effect, have strengthened his former opinion.

On the vote for the president for next year, Von Jaksch of Prague proved the choice of the Congress.

THE ASSOCIATION OF AMERICAN PHYSICIANS.[1]

Fourteenth Annual Meeting, Held at Washington, D. C., May 2, 3 and 4, 1899.

FIRST DAY, MAY 2D.

THE meeting was called to order by the President, DR. G. BAUMGARTEN of St. Louis, who opened the proceedings with the following introductory address:

In opening this fourteenth session my first impulse is to express to you my appreciation of the high honor you have conferred upon me. I can only excuse my acceptance of this office by my literal faith in the words of your first president, when he spoke of this Association as one in which no one will care who are the officers and who are not, and by the loyal interest I take in its welfare.

This Association was founded as one of a number of special societies cultivating special branches of medicine and it stands for specialization, subdivision of labor, and concentration of effort on the part of the investigator and clinical observer, but it differs from our allied sister societies in that it counteracts the disadvantages of specialization by allying the clinician with the pathologist, the bacteriologist with the chemist, and thus prevents one-sided devotion to mere technical training.

We count among our members those who direct their labor and acumen to the quest of the most intricate details, as well as the master minds who, trained in the appreciation of the smallest factors, yet survey all that upon which the light of science shines from a vantage ground.

It is incumbent on me to make the formal announcement that since last we met we have lost one of our master workers, Dr. William Pepper. This body, which owes so much of its early success to the tactful organizing efforts of Dr. Pepper, mingles its sorrow with that of the profession of all America, with the university and with his native city. He was one of the organizers to whom this Association owes its existence, and we remember with gratitude the kindly influence of his presence among us, one of the most interested of our members, ready in discussion, lavish of instruction, always competent and willing to give more than he received. May the Association long be spared another such loss!

The first paper, entitled

IDIOPATHIC DILATATION OF THE COLON*

was read by DR. J. P. CROZER GRIFFITH of Philadelphia. He said in part: Cases of dilatation of the colon may be divided into three classes: the acquired, the congenital, and the idiopathic congenital. In the first class I would place those cases that are due to habitual constipation, fecal impaction, acquired atony due to a debilitated system and narrowing of the bowel by pressure. In the second class may be included those cases due to congenital obstruction, or stenosis of the colon or rectum which causes distention to develop above it, and in the third class are the so-called idiopathic congenital dilatations which are dependent upon no discoverable organic

[1] All papers marked with an asterisk (*) will be published in ful in the *American Journal of the Medical Sciences.*

cause. A synopsis of all the reported cases of idiopathic dilatation will be appended to the paper, and I wish to give the notes of one case which has been under my own observation. R. S., born in June, 1894, and two years and eleven months of age at the time of the examination. He had been constipated from birth and very strong purgatives were required. When five months old marked distention began in the abdomen accompanied by more or less pain. He would sometimes go as long as a week without any movement and then have a diarrhea which was at times accompanied by even an increase in the gaseous distention of the abdomen. The condition persisted without change until November, 1896, when, because of his having swallowed a button the purgatives were discontinued for a week, and after this it was almost impossible to secure a movement of the bowels. Then a severe diarrhea set in, the patient's condition steadily grew worse, and though colotomy was performed his strength had diminished so much that he did not recover. Autopsy showed nothing abnormal in the abdomen except a constriction in the ileum.

In a few cases diarrhea has been a constant feature and not infrequently has it been a final event in the history of the case. As a rule, pain and tenderness have been absent, and the presence of hard fecal masses has been the exception. The treatment should be, first, hygienic and medicinal, and secondly, operative. For the latter purpose, colotomy, or resection of the bowel as suggested by Treves, may be resorted to.

THE RELATION OF IDIOPATHIC DILATATION OF THE COLON TO PHANTOM TUMOR*

was the title of a paper by DR. R. H. FITZ of Boston. The descriptions of such tumors show marked variation in their shape, size, duration, and in the nature of the associated symptoms. It is noteworthy in the history of the subject that of late years reports of cases of phantom tumor have almost wholly disappeared from medical journals. In the meantime a considerable number of cases have been published, the characteristics of which simulate those of phantom tumor, but the tumor proved to be a permanent enlargement of the colon. The affection is a cause of deformity, discomfort and danger. It occurs both early and late in life. The former variety is frequently called congenital, though the term infantile is more comprehensive, since a recognizable congenital cause occurs only in the few instances in which a malformation of the lower part of the colon or rectum has been found. It is considered probable that constipation is the chief factor in the production of idiopathic dilatation, both in the infant and in the adult. The two conditions, chronic phantom tumor and idiopathic dilatation of the colon, are considered identical. The symptoms are similar; in each the tumor subsides under anesthesia to return when consciousness is recovered, and the phantom tumor, after laparotomy has proven to be a dilated colon. The phantom tumor has no necessary relation to hysteria and idiopathic dilatation of the colon may occur in neurasthenic or hysterical persons. Finally cases of phantom tumor in medical journals have been replaced by examples idiopathic dilatation of the colon. The resection of the dilated sigmoid flexure is advocated in those cases where the condition has existed for so long a time as to indicate a permanent enlargement, and especially when associated with serious discomfort or suffering. Instances are given of the successful performance of this operation.

DR. OSLER: In the first of my cases the operation of colotomy was performed by Dr. Halsted and it is erroneously stated in Rotch's "Pediatrics" that the child died later. When last heard from the child was still alive. In a second case the operation for artificial anus was performed, all the symptoms disappeared and the child improved rapidly. In a third case I reported, a child aged seven months, lived for two years subsequently, and, at autopsy we found enormous dilatation of the colon with narrowing of the sigmoid flexure.

My fourth case illustrates that this condition sometimes disappears spontaneously. The boy, aged ten years, had great distention of the abdomen with perceptible sacculation. He had chronic heart disease and with the aggravation of this and the development of ascites the dilatation of the colon disappeared.

The very rapid improvement in the patients after colotomy, leads me to believe that the operation should be performed early and that it is much less serious than the operation proposed by Treves.

DR. JACOBI: In considering the cause of this condition I may suggest that there are in the intestinal tract possibilities of imperfect development of the muscular layers. I have not seen that condition of things in the intestine, but have seen it in the stomach where there was a local atrophy of the muscle and I can imagine that a similar condition in the colon would give rise to dilatation. Further autopsies will teach us more about it.

DR. JAMES TYSON of Philadelphia then reported a case of

PRESYSTOLIC MITRAL MURMUR ASSOCIATED WITH SYSTOLIC TRICUSPID MURMUR AND JUGULAR PULSE.

The patient was a woman, aged thirty-two years, and when first seen was in the eighth month of pregnancy. There was a history of illness eight years before, during her first pregnancy, and shortly after that an attack of rheumatism, apparently muscular. Following this she has had a winter cough and three months ago is said to have had pleuropneumonia from which she never entirely recovered. Since then she has been having an aggravated cough with dyspnea, weakness and loss of weight. On admission to the hospital her appearance was that of a consumptive, but physical examination showed only general bronchial catarrh. On inspection a jugular pulse was recognized coincident with systole of the ventricles and there was marked systolic thrill at the apex, which was in the fifth interspace, about an inch to the left of the mid-clavicular line. Auscultation gave at the apex a short, rough murmur, terminating abruptly in a loud, thumping, first sound, followed by a faint second sound and when the stethoscope was carried up into the pulmonary area the second sound became more intense and again less loud as the aortic area was approached. The presystolic murmur was a double one and the thumping sound was well heard in the axilla but less loud in the mitral

area. It was also heard at the angle of the left scapula behind. Just across the left parasternal line was a long, loud, blowing systolic murmur, most intense in the fifth and sixth interspaces. Nowhere and at no time was a mitral systolic murmur audible.

The patient was relieved of the bronchial catarrh by the use of potassium iodid and belladonna, and the extreme cardiac distress was diminished by hypodermic injections of morphin. When she went in labor cyanosis became very intense, and she had to be rapidly delivered by forceps. She was examined soon after labor with the following result: the jugular pulse had disappeared, the liver could be distinctly outlined, the presystolic thrill was still plain, and the pulmonary second sound strongly accentuated. The changes noted were due simply to recession of the diaphragm and subsidence of venous turgor, which followed emptying of the gravid uterus.

DR. JANEWAY: I have found that the presystolic mitral murmur in about one-third of all cases can be heard behind, near the angle of the scapula. This is opposed to the rule usually stated. Anyone who has had a great deal of hospital experience has watched cases of mitral stenosis with well-characterized murmurs and has had those cases go out of the hospital, to return again later as cases of mitral insufficiency and much uncertainty has been brought about in this way, but when the autopsy was held a mitral stenosis was found where the last clinical history gave mitral insufficiency.

DR. GRIFFITH: I am very glad to hear Dr. Janeway speak as he has, for I made this point in a paper read here three or four years ago. No reference to the fact is made in the text-books, that in cases of mitral stenosis the murmur can so frequently be heard much beyond the ordinary limits.

A CASE OF MITRAL STENOSIS WITH FEVER (NON-MALARIAL) OF RELAPSING TYPE*

was reported by DR. F. P. HENRY of Philadelphia. He said: My patient was a young, unmarried woman, pregnant, highly chlorotic, with well-marked, though well-compensated mitral stenosis and fever which might be styled recurring, relapsing, or intermittent, but certainly not malarial. Inference that the fever was dependent upon the heart lesion is based upon the fact that no other cause could be found. About ten days before admission she began to feel weak and complained of headaches, pain in the back and neck, with occasional nausea, vomiting, and epistaxis. The menses had been suspended for two months. Physical examination revealed nothing abnormal except a presystolic murmur followed by the short, sharp first sound and a scarcely audible second sound. The heart was but little, if at all, enlarged. The temperature was normal for five days, when it began to rise, and two days later reached 101.4° F. The next day it was again normal, and remained so for six days, when it suddenly rose to 102° F. Six days later there was another ascent to 102° F., and this was repeated several times. On two occasions the rise in temperature was accompanied by a chill. Repeated examinations of the blood for the malarial organism gave negative results. Blood count showed red cells, 2,705,000 per cm.; leucocytes, 6000; and hemoglobin, 20 per cent. Urine was normal. The patient is living and free from fever, but that is not sufficient reason for believing that the fever was not etiologically connected with endocarditis.

DR. JOHNSTON: It seems to me the explanation of these cases must be found in what we know to be the cause of analogous conditions in malarial fever, or tuberculosis, namely—in the life history of an organism. I have recently seen a somewhat similar febrile case without the cardiac symptoms, and repeated examinations of the blood threw no light upon the condition.

DR. BOND: I would like to suggest that possibly this may be due to gastro-intestinal trouble.

DR. HENRY: There were no gastric disturbances at all.

The next paper, on

THE IMMEDIATE AND REMOTE EFFECTS OF ATHLETICS UPON THE HEART,*

was read by DR. ALFRED STENGEL of Philadelphia. He said, in part: For six years past I have been making examinations to determine the effects of athletics upon the size and efficiency of the heart and character of the circulation. The charts I shall exhibit will illustrate the changes in the outline of the heart as obtained by percussion, and auscultatory percussion, after exercise. It seems that in the beginning of exercise there is a temporary increase of the cardiac pressure and the phenomenon known as "second wind" is explained by recovery of the right ventricle after the preliminary over-distention incident to exertion. The details of a number of cases may be given to show that unfortunate results may occur from violent excessive exercise in young persons not under proper training, and also to show that there is a marked difference between those who are carefully and those who are insufficiently trained. There is more or less danger attending any sport, but I would lay stress upon the necessity for careful athletic training, not only for the athletic field, but for the general struggle of life. The effect of continued indulgence in severe sports is the development of some cardiac hypertrophy, and athletes who have thus enlarged their hearts frequently suffer symptoms of over-compensation, at least during some years after they have ceased to follow athletics.

I would suggest rigid medical supervision in college athletics and that young men be encouraged to continue some form of exercise after discontinuance of regular athletics.

DR. FOLSOM: From the cases I have seen I am inclined to think that a great many of the bad effects come from one of two causes: either a young man enters into athletics without a very good heart, or more commonly still these young men with big frames and strong muscles, but unaccustomed to severe muscular exercise, go into athletics without realizing that it is easier to strengthen the muscles of the legs and arms than the muscles of the heart.

DR. OSLER: I would emphasize one point in Dr. Stengel's paper, that is, the frequency with which he has found a systolic murmur in the pulmonary area of healthy

young athletes. I hope that statement may sink deeply into the minds of the gentlemen composing the army and navy board. Every year I have two or three young fellows come to me because they have been rejected by these boards upon the discovery of such a murmur, and such rejection is often an injustice. I would also like to issue a warning to men who have about crossed the line of forty to forty-five against trying to ride bicycles and climb hills with the boys. So long as they ride with men of their own age all right, but when they attempt to climb hills with young athletes look out for trouble.

DR. DOCK: It is not sufficiently borne in mind by many that athletes with apex murmurs may be capable of a large amount of hard work. I have noted this both in the case of football players and in some of the soldiers enlisted for the late war.

ON THE INTERPRETATION OF PULSE TRACINGS

was the title of a paper by DR. A. R. CUSHNY of Ann Arbor, Michigan.

When the dog's heart is exposed, and the ventricle is stimulated with single electric shocks, each stimulus that falls during the non-refractory period is followed by an abortive systole, which is sometimes sufficient to cause a distinct pulse in the arteries, but often fails to do so. The auricle is not affected by the stimulus and continues to beat in its usual rhythm. The next contraction of the ventricle after the abortive systole is induced by an impulse descending from the auricle as usual, and, therefore, takes place at the exact time at which a contraction would have occurred had there been no abortive systole. The interval between this beat and the last normal one is, therefore, exactly double the pause between two ordinary contractions. If a sphygmographic tracing be taken, the pulse appears to miss one beat, and the intermission is found to be exactly twice as long as the interval between two ordinary elevations of the tracing. If the auricle be stimulated instead of the ventricle the result at first appears the same, the ventricle contracts prematurely, owing to the artificial impulse descending from the auricle, and there is either a very small undulation in the sphygmographic tracing or a complete intermission. If the duration of this intermission be measured, however, it is found to be less than double the pauses between two ordinary pulsations. In this way the examination of the sphygmogram of the dog enables one at once to determine whether the stimulus was applied to the ventricle or to the auricle, for in the first place the intermission is exactly twice as long as the ordinary interval between two pulses, while in the second place it is invariably shorter. Some consideration will show that the first proportion is true for any intermission of the pulse that is due to disorder of the ventricle only, that is, such an intermission must be equal to twice the ordinary pause. Any intermission that is of shorter duration must accordingly be due to the disordered action of the parts of the heart above the ventricle, which determine the pulse rhythm.

In cases of heart disease hitherto examined the sphygmogram very often showed intermissions, which indicated that the ventricle alone was at fault, while in many others it was perfectly certain that the intermission was due to disorder of the rhythmic parts of the heart. In some cases the pulse was so irregular that no certain conclusions could be drawn in the matter. The accurate measurement of the pulse-tracings in irregularity of the heart thus affords a means of diagnosing with considerable probability whether the ventricle or the rhythmic part of the heart is at fault.

DR. M. ALLEN STARR of New York, then read a paper on

TABES.

Only two sets of neurons appear to suffer in this disease, namely, the sensory elements of the optic apparatus in the brain and the sensory elements of the spinal cord, whose primary centers are the posterior spinal ganglia and whose double branches extend to the surface of the body in the peripheral nerves, and to the medulla oblongata through the posterior columns of the cord. While in the ordinary disease the spinal and optic neurons seem to be the ones most vulnerable they are by no means uniformly involved together. In 300 consecutive cases of tabes optic atrophy was present in thirty only, and in twenty-five of these cases blindness was present many years before any other symptoms of tabes, except knee-jerk, developed. In fact, the cases in which optic atrophy is an early symptom rarely present the typical symptoms or the usual course of the disease. This leads me to separate the spinal type of tabes from the optic type, and to consider them both as degenerative diseases of the sensory neurons, but not the same disease. In the spinal type optic atrophy may appear late, and in the optic type spinal symptoms may eventually develop, but in their mode of onset, origin, and course, these diseases seem to be distinct from each other. This necessitates the careful study of each case in order to determine the proper treatment.

I want to call attention to the general anemic ill-nourished condition of these patients and direct special attention to treatment for building them up. Even admitting that from sixty to seventy per cent. occur in individuals who have had syphilis I consider it most important to begin with the tonic treatment, and to defer the use of mercury and the iodids until the patient is in a better condition for their administration.

DR. SINKLER: There is no question that attention to the nutrition is of great importance in these cases, but the best results I have seen followed removal to a different climate, especially a mild climate like that of Florida or California.

DR. THOMSON: I fully endorse Dr. Starr's method of treatment, especially the use of cod-liver oil, but in certain cases I find it useful to apply the actual cautery to the spine. Another favorite measure of mine is the red-pepper pack.

DR. FOLSOM: In regard to the use of the iodids it seems to me important to begin them as soon as possible, and I believe they are of service in the building-up process.

DR. BOND: I agree with the last speaker, for usually these patients tolerate the iodids very well.

DR. CAREY: Perhaps it may not be inappropriate to

make a suggestion as to the time at which iodids should be given. I think it is a common practice to give the iodids on a full stomach, while as a matter of fact the iodid of potassium should be given without any liability of its coming in contact with starches and should, therefore, be given one or two hours after meals.

DR. JANEWAY: Last year I spoke of the treatment of chronic syphilitic fever by the mixed treatment, that is, moderate doses of the iodid, from 5 to 20 grains, with $\frac{1}{32}$ to $\frac{1}{20}$ of a grain of mercuric iodid, and the tincture of cinchona. I have been using this also in some cases of tabes with good results.

DR. STARR: I believe that antisyphilitic treatment is indicated in most of these cases, but I believe the most benefit is derived from first building up the general health.

KERNIG'S SIGN IN MENINGITIS*

was the title of a paper read by DR. J. B. HERRICK of Chicago.

KERNIG in 1884 described a phenomenon which he thought was found only in affections of the pia mater and which was never lacking in inflammations of that membrane. If a patient with meningitis be made to sit up as on the edge of the bed, the thigh being, therefore, at right angles to the body, it is found extremely difficult to extend the leg because of the presence of a marked flexor contracture.

My own observations have been made upon nineteen cases with six autopsies. Kernig's sign was present in seventeen, and in the two cases in which it was absent a single examination was made only a short time before death and it was noticed at the time that there was a general laxity of all the muscles. In most of the cases the sign was not necessary to the diagnosis but in some it was of considerable value. In twenty-five healthy individuals examined, this sign was not found in any case and in one hundred patients ill from other conditions than meningitis it was present in two, absent in ninety-eight. It would seem then to be as pathognomonic as rose-spots in typhoid or murmurs in endocarditis.

ON ASTASIA-ABASIA, WITH A CASE,*

was read by DR. J. C. WILSON of Philadelphia.

This is the tenth case reported by American writers. The patient was a woman, twenty-four years of age, whose family history showed on the paternal side an epileptic uncle and an aunt addicted to the use of morphin, while on the maternal side were two uncles, dipsomaniacs. Some closer relatives showed nervous tendencies. On January 16th she was aroused from sleep by ringing of the door-bell and received an indifferent telegram. The next day on attempting to rise she found it impossible to stand or walk. She described her condition in the following terms, "My left leg feels as if it were made of cotton," an expression already recorded in other cases and "I feel like a combination of a child learning to walk and a drunken woman." There are abrupt movements of flexion of the knees, followed by rapid extension and contortions constituting compensatory movements of the upper extremities in order to obtain equilibrium. On attempting to stand her knees bent and she would sink to the floor. Careful examination in every way failed to throw any light upon the condition. Treatment consisted in rest in bed, valerianate of zinc, in 1-grain doses, four times daily, and massage with electricity to the legs and feet. At the end of two weeks when allowed to get out of bed she was given lessons in walking. Improvement was rapid, but in a short time distinct hysterical manifestations appeared and she had to be isolated again, so I look upon the condition as a symptom of hysteria.

A CASE OF FAMILY PERIODIC PARALYSIS*

was reported by DR. J. K. MITCHELL of Philadelphia. He said: The case I wish to report is that of a boy, aged eighteen years, who has attacks of paralysis occurring at frequent intervals. He may retire perfectly well, but awake in the morning helpless, paralyzed from head to foot with total abolition of skin, muscle and tendon reflexes, loss of faradic and galvanic contractility, unchanged sensibility, and unimpaired mind and speech. Five cases of a similar nature have been seen in his mother's family. The boy has been kept in the hospital occasionally for periods of six months, so that careful blood examinations and a careful study of the body excretions could be made in order to determine if possible the presence of toxins. Whilst this has not been entirely successful I am not inclined to look upon the case as purely hysterical, but rather believe it is due to auto-intoxication.

SECOND DAY, MAY 3D.

DR. W. W. JOHNSTON of Washington, D. C., opened the proceedings by reading a paper, entitled

THE CONTINUED FEVER OF EPIDEMIC INFLUENZA.

The onset of fever is sudden in all cases of influenza. Sometimes a short acute, catarrhal stage is followed by prolonged fever, but more frequently the attack is very mild in the beginning, but progressive weakness and increasing fever finally forces the patient to seek medical health. As a rule, the evening temperatures are ascending for from two to five days. Defervescence is gradual, resembling typhoid, and the normal point is reached at different dates. The common characteristic of the latter stages of influenza fever is the long-continued minor oscillations and very delayed disappearance of the evening rise, long after patients have resumed a more active life. The recognition of the nature of this fever is sometimes difficult and it may be taken for enteric fever or even acute tuberculosis.

The second paper, entitled

SOME REMARKS ON TYPHOID FEVER AMONG THE AMERICAN SOLDIERS IN THE RECENT WAR WITH SPAIN,*

was read by DR. V. C. VAUGHAN, of Ann Arbor, Mich.

In August, 1898, Dr. Sternberg appointed a board consisting of Major Walter Reed, U. S. A., Major E. C. Shakespeare, U. S. V., and the writer to study the causes and the spread of typhoid fever among the troops in the various camps within the United States. The members of the board have been and still are engaged in this investigation. The work is not completed,

but the board feels justified in formulating certain conclusions. We have visited all the large camps in the United States, making direct personal inspections, studying the water-supply, the quality and quantity of food, and its method of preparation, the nature of the soil of the camp, the space allowed regiments, the arrangement and size of the tents and number of men occupying each one, the location of sinks with reference to the mess-tent, the disposition of fecal matter, etc. Medical and other officers were called upon for testimony. Then followed a study of the records in the Surgeon-General's office.

The first striking point appeared in the first day's work at Camp Alger and consisted in the lack of scientific diagnosis of typhoid fever; most of the febrile cases were found to be diagnosed as malaria. At once competent men were asked for and furnished promptly by Dr. Sternberg to go to the various camps and make scientific examinations of the blood and apply the Widal-test in febrile cases. As a result of these careful examinations it can be stated that malaria was a very rare disease among the troops that remained in the United States, not one case being found at Camp Alger, for instance, and only one at Chickamauga. Our full report will contain in detail the evidence and reasons for saying that practically all the protracted febrile cases were typhoid. Not only was typhoid diagnosed as malaria, but it was covered up by other names. For instance, in one regiment the death-rate from indigestion amounted to fifteen per cent. of all the cases, and in another nearly all deaths were attributed to dengue.

The origin of typhoid in the large encampments is easily determined. So widespread is typhoid fever in this country that in assembling a regiment of volunteers the probabilities are that one or more men will be found to be infected with the disease, and about ninety per cent. of the volunteer regiments that went to Chickamauga were infected when they reached that place. How did it spread among the troops? The evidence concerning the possibility of water infection is for the most part negative. The most potent factor at most of the camps was camp pollution with fecal matter. The epidemic was not due in any respect to the sending of Northern men to Southern camps. In most of the camps fecal matter was deposited in pits which were open, and flies swarmed over it, and then, of course, walked over the food at the mess-tents. In many regiments fecal matter was deposited about the camp on the ground, and there were pieces of woodland near Chickamauga Park through which one could not walk without soiling his shoes. In many regiments paper soiled with fecal matter was blown about the camps. In fact, there was no adequate provision for disinfection of stools and prevention of infection.

DR. STERNBERG: It is certainly discouraging that after the lessons of the Civil War we should have had a repetition of camp infection by a disease that we recognize as due to filth. I had hoped for better things, that the profession in general would more fully appreciate the dangers, and I issued a sanitary circular describing the means of avoiding such an infection. The line officers were many of them inclined to consider all talk about cleaning the camp, about flies carrying infection, etc., as a fad of the doctors, and would not recognize danger until the epidemic had occurred. I am afraid that the doctors throughout the country do not pay as much attention as they should to the sterilization of the excretions from typhoid patients, and these are the doctors that made up our regimental surgeons. Typhoid invaded practically all the camps, even those in Northern States, where the regiments never left the home camp. I can only hope that the results of this war may be impressed upon the profession, and that we may devise some way of avoiding similar disasters in the future.

DR. WILLIAM OSLER of Baltimore reported

A CASE OF HEMACHROMATOSIS, WITH EXHIBITION OF PATIENT.

The patient is a man of good family history, who noticed about four years ago that he had begun to change in color. He is a vigorous, healthy man, but on examination last Saturday I found a well-marked hypertrophic cirrhosis of the liver with enlargement of the spleen. He has the long duration of the disease, the increasing bronzing of the skin, the enlarged liver, and has had recurrent attacks of purpura. Examination of the urine shows the presence of iron.

DR. W. H. WELCH of Baltimore presented

A CASE OF HEMACHROMATOSIS, WITH EXHIBITION OF SPECIMENS.

I have brought over the specimens from a case of this disease which have been very thoroughly studied by Dr. Opie. The patient presented extreme pigmentation of the skin, and examination of the various organs of the body have shown that they are all more or less pigmented and have undergone hypertrophic changes. Two kinds of pigment are present, the iron-containing and iron-free pigment, the latter being found principally in the heart muscle and in the walls of the small intestine.

OTITIS MEDIA IN LOBAR PNEUMONIA OF CHILDREN

was the title of a paper by DR. S. J. MELTZER of New York.

In the course of the last fifteen years I have observed a number of cases of lobar pneumonia in children at the beginning of which earache was the first and predominant symptom. All the cases had in common the following points: earache at the onset of the disease, lasting usually only one or two days, never outlasting the disease, and in none did it terminate in a discharge from the ear. With two exceptions the earache was on the same side with the pneumonia, and as far as I could ascertain in all cases there had been at some previous time an otitis media in the now aching ear. The literature shows that otitis media is a very frequent complication of catarrhal pneumonia in children, but I have found no mention of its being a complication of lobar pneumonia. In lobar pneumonia of children purulent otitis media is at least very rare, and I offer the hypothesis that the earache is possibly only a sympathetic pain of a chronically inflamed drum.

A paper, entitled

ENDOCARDITIS OF TONSILLAR ORIGIN, WITH A REPORT OF FIVE CASES,*

was read by DR. F. A. PACKARD of Philadelphia.

One of the most interesting questions in medicine at the present time is the etiology of acute articular rheumatism and each year there is a steadily growing assurance that it should be classed among the acute infections. I believe that the cases I shall report have been plain cases of acute tonsillitis and pharyngitis having no connection with rheumatism, and that the endocarditis arose as a direct consequence either of infection of the endocardium by micro-organisms, which gained entrance by way of the tonsils, or to structural changes in the mitral leaflets brought about by coagulation necrosis or through results of chemico-vital action of toxins produced by micro-organisms in the throat and absorbed by the inflamed tissues. It may be said that the tonsillitis and the endocarditis were simply "rheumatics," but there was no preceding or subsequent history of the presence of other members of the rheumatic group or of any of the ordinary rheumatic manifestations.

A CASE OF FATAL EPISTAXIS WITH A STUDY OF THE BLOOD*

was reported by DR. GEORGE DOCK of Ann Arbor, Mich.

This patient came to the hospital January 10th on account of severe nose-bleed. Five weeks before the nose had bled for four hours, "filling a wash-basin," and a week later there was another attack which lasted three hours. These attacks have been repeated several times and required plugging of the nares. There was a continuous oozing of blood into the posterior nares. Examination of the blood showed red corpuscles 1,120,000, leucocytes 13,300, and hemoglobin 25 per cent. There was general pallor of the eyegrounds, and on January 27th edema of the lungs developed and the patient died of the increasing dyspnea. Autopsy showed an endothelial carcinoma of the turbinated bones, secondary anemia, edema of the lungs, fatty degeneration and liquefaction of the heart muscle and hyperplasia of the liver and spleen. The serous membranes were the site of considerable hemorrhage.

The most important feature in the study of the blood was the presence of enormous numbers of enucleated red blood-cells and it is a most remarkable fact that in spite of the evidences of blood formation the actual renewal of the patient's blood did not take place.

The next paper, entitled

EXPERIMENTAL RESEARCH DISPROVING THE THEORY THAT PARAXANTHIN POISONING IS A CAUSE OF MIGRAINE,

was by DRS. FRANZ PFAFF and J. J. PUTNAM of Boston.

Careful analysis of the urine from a number of patients with the symptoms typical of migraine indicate that there is no increase of paraxanthin. In considering the work of Dr. Ratchford we are inclined to believe that the results obtained from experimentation with final fluids were due to the fact that ammonium salts were not thoroughly removed.

THE ACTION OF HEPATIC, RENAL, AND OTHER CELLS UPON PHENOL AND INDOL, UNDER NORMAL AND PATHOLOGICAL CONDITIONS

was the title of a paper by DR. C. A. HERTER of New York.

Two methods were employed in this research. In one given weights of the normal liver, kidney, muscle, brain, and blood were minutely divided and then brought into contact with a known quantity of phenol or indol in watery solution and allowed to remain for periods of time varying from one to several hours, when the entire mixture was subjected to distillation. It was found that the distillate recovered from the liver contained less phenol than that from any other organ, and much less than that from a control distillate, making it clear that a certain amount of phenol was in some way transformed by contact with living cells. The blood and brain was found to possess only a slight transforming action, the kidney to act energetically, but less so than the liver, and muscle tissue to occupy a position intermediate. Similar results were obtained in the case of indol.

A second method of study consisted in introducing phenol and indol intravenously, killing the animals quickly and subjecting the triturated organs to distillation. These experiments justify the conclusion that the cells of the liver are more active than those of the kidney, muscle, or brain in removing aromatic substances from the blood and in effecting their rapid transformation.

Another series of observations was made with organs of animals placed under different pathologic conditions, such as prolonged anesthesia, poisoning by alcohol, staphylococcus septicemia, etc. These experiments indicate that some pathological conditions are capable of distinctly reducing the ability of the liver-cells to transform phenol and indol, and it was also found that the liver-cells in cases of fatty and cirrhotic livers were incapable of exerting their normal activity.

The next paper, entitled

ON THE TOXICITY OF THE URINE,*

was by DRS. F. FORCHHEIMER and R. W. STEWART of Cincinnati.

The conclusions as to toxicity of urine can be only tentative for all the cases; but positive for the majority. Those methods which exclude bacterial activity absolutely after the urine is passed are followed by comparatively no mortality. It would seem that most of the toxicity of urine is due to the formation of toxins by means of the action of bacteria upon some body or bodies in the urine. We are not justified in stating that there is no other toxicity, except that due to bacterial activity, but we are justified in making the statement that all those investigations that have been made in which this activity has been overlooked are to be regarded as inconclusive.

PERFORATION OF THE STOMACH BY A FOREIGN BODY IN AN INFANT SEVEN WEEKS OLD*

was reported by DR. T. M. ROTCH of Boston.

The patient, a child of seven weeks, was attacked suddenly with abdominal pain and vomiting. Symptoms of peritonitis developed, and on the fourth day a laparotomy was performed and the abdominal cavity irrigated. Three days later the infant died, and on post-mortem examination a minute perforation of the stomach was found in which was a small thread.

REVIEWS.

A PRACTICAL TREATISE ON FRACTURES AND DISLOCATIONS. By LEWIS A. STIMSON, B.A., M.D., Professor of Surgery in Cornell University; Surgeon to the New York and Hudson Street Hospitals; Consulting Surgeon to Bellevue, St. John's, and Christ Hospitals; Corresponding member of the Société de Chirurgie of Paris. With 326 illustrations and 20 plates in monotint. New York and Philadelphia: Lea Brothers & Co., 1899.

PROFESSOR STIMSON'S volumes on fractures and dislocations, issued some fifteen years ago, have been classical sources of reference in difficult cases. The present single volume is the fruit of his riper experience, and "although in one sense of the word," as the author says in the preface, "this work is a second edition of the volumes published in 1883 and 1888, it has been so largely rewritten that it is practically new." The former two volumes have been condensed into one, a happy change in these days of the printing deluge, and their contents brought thoroughly up to date, for, though fractures and dislocations are as old as the race and the general principles of their treatment have long been known, there is an up-to-dateness of the subject very necessary for the general practitioner if he would save himself the worrisome opprobrium of imperfect or too slowly progressive results.

The work is characteristic of its writer in the thoroughly practical treatment of the subjects that divide surgical opinions generally just at present. While the book was in press we quoted (see MEDICAL NEWS, February 11, 1899) one of these eminently practical, thoroughly conservative, yet progressive views as to the vexed question of the treatment of fracture of the patella. Here is a like valuable opinion as to massage in the treatment of fractures: "A somewhat exaggerated opinion as to the value of massage has found expression in certain quarters. . . . A calmer and more judicial appreciation of its merits and limitations has succeeded. It appears to be beyond question that by its systematic and skilful use in suitable cases the primary swelling is lessened and disappears more promptly, the circulation and skin more rapidly regain their normal condition, the atrophy of the muscles is less and more promptly disappears, and the joints more quickly lose their sensitiveness and regain the range of motion which is possible under the changed skeletal conditions." Time was when the surgeon was satisfied if he got good union without deformity. The length of disability inflicted on the sufferer from fracture was scarcely considered, but now the *tuto cito et jucunde* of the healing art has invaded even the treatment of fractures, and massage is evidently an important factor in this since it brings the advantages claimed for it by Professor Stimson.

The practical suggestions as to the method of massage, the leaving on of one molded splint while the manipulations are carried on if there is much tendency to displacement, and the suggestion as to the use of the rubber bandage under certain circumstances as an instrumental masseur, evidently emanate from a man whose knowledge of the subject comes from large clinical experience.

The summing up as to the value of ambulatory treatment is as satisfactory as that with regard to massage. A hint as to its introduction by an instrument-maker begins the section on the subject and is characteristically expressive. The real value there is in the method under certain circumstances is shown. These subjects of massage and the ambulatory treatment of fractures are questions that the general practitioner and student are interested in just now because they have been a good deal discussed in the journals and at medical societies. The true function of the text-book is to give definite, not dogmatic views, on such subjects so as to enable the practitioner who faces "a condition, not a theory," to draw his own conclusions.

We had hoped to find an equally interesting discussion of the subject of sprain fractures around the ankle-joint, on which the Röntgen-rays have given us some new light of late years. Perhaps the subject was not considered sufficiently settled as yet to be able to state definite conclusions.

The skiagraphic illustrations of the book are excellently reproduced; some of the best we have ever seen. The Röntgen-rays are of the greatest value in the diagnosis of fractures, yet they do not do away with the necessity for thorough clinical experience in the matter.

THE PRACTICE OF OBSTETRICS BY AMERICAN AUTHORS. Edited by CHARLES JEWETT, M.D., Professor of Obstetrics in the Long Island College Hospital, Brooklyn, N. Y. Illustrated. Philadelphia and New York: Lea Brothers & Co., 1899.

THIS new text-book on the obstetric art represents the combined work of some of the best known writers on midwifery and cognate subjects in this country. A careful inspection of their labors shows that, under careful editing, they have succeeded in compiling a book of no ordinary merit, some parts of which, indeed, are classical in their worth. As a work of reference, it cannot well be excelled, for the opinions of the writers are supplemented by those of others of great weight and authority in the obstetric world. It may be that this very feature may detract from the worth of the book for the use of students who are notorious for their indifference as to the authority which is not that of their teachers. A serious student, however, like a serious practitioner, will be the gainer for having read and digested this book.

It is impossible in a weekly journal to review in minute detail a work of this size. The chapter on the diagnosis

fferential diagnosis of pregnancy is a splendid logical writing and embraces some new features ickinson). The physiology of labor (Drs. Jewett uckmaster) is well handled and is free from the n which usually characterizes this subject. Drs. o and Bartley discuss the physiology of the puerper- including the care of the new-born child.

In the chapter on the pathology of pregnancy, the subtitles are: "Multiple Pregnancy" (Dr. Manton), "Anomalies and Diseases of the Fetal Appendages" (Dr. Etheridge), "Pathology of the Fetus" (Dr. Van Cott), "Abortion and Premature Labor" (Dr. Vineberg), "Ectopic Gestation" (Dr. Henrotin), and "Diseases of Pregnancy" (Dr. Etheridge). Dr. Henrotin's article on ectopic pregnancy may be cited as an example of the modernness of the book; there is no doubt expressed as to the operative treatment of this condition as the only one; there is no dodging the question as there is in some not very ancient books on this subject. The late Dr. Etheridge's article, too, shows an advance in this direction, that every conceivable ailment from which a pregnant or a non-pregnant woman may suffer is not included among the diseases of pregnancy.

Part VI., dealing with the pathology of labor, includes a consideration of the anomalies arising from disease, accident or the forces at work, and a very readable paper on eclampsia (Dr. Edgar), in which the author repeats his opinion that veratrum viride is of great service in this condition. Personally, we do not favor the view of regarding insanity arising during the puerperium as an entity distinct from similar conditions minus the influence of child-bearing; but the article by Dr. Hamilton gives due credit to heredity and this is some gain in the right direction.

The monograph by Dr. Williams on puerperal infection is alone an excuse for the publication of the book if one were needed. He advocates the immediate repair of even slight tears of the perineum as prophylactic of infection, although he does not advise the same treatment of slight lacerations of the cervix; he objects to a routine examination of the internal genitals after the conclusion of labor as favoring sepsis; curetting he recommends only when the contents of the uterus are not septic and when a general sepsis has not already supervened. Hysterectomy for puerperal sepsis is to be performed only when the process is limited to the walls of the uterus and intra-pelvic abscesses are, of course, to be opened. This paper for scientific clearness and accuracy and thoroughness is one of the best in the book and on the subject. The work concludes with a complete series of articles on obstetric surgery.

Profuse and handsome illustrations, many of them original, help to make the book attractive. Altogether, as a well grouped, scientific exposition of the art of midwifery as it is taught at the present day, this work by American authors stands easily among the highest.

ESSENTIALS OF MATERIA MEDICA, THERAPEUTICS AND PRESCRIPTION WRITING. By HENRY MORRIS, M.D., Fifth edition. Philadelphia: W. B. Saunders, 1899. SAUNDERS' question-compends have always been popular among medical students, Dr. Morris' little book no less than the others of the series. The new edition is marked by ample reference to the newer drugs and by an insertion of dosages in the metric as well as in the apothecary systems.

THERAPEUTIC HINTS.

To Facilitate Feeding in Infantile Stomatitis.—It is very desirable to diminish the sensitiveness of the inflamed surface in this condition so that nourishment will be taken regularly by the child, and for this purpose orthoform has been used with success. Ten to twenty minutes before nursing or feeding a sufficient quantity of the drug, very finely powdered, is spread over the affected surfaces by insufflation. Care should be taken to avoid the soft palate and the pharynx as the unpleasant taste of the drug is otherwise made perceptible. No ill effects need be feared, and the analgesia obtained enables the child to take its nourishment willingly.

For Dyspepsia with Deficient Muscular Action. — MATTHIEU considers bicarbonate of soda and ipecac to be most valuable for the stimulation of muscular action in the stomach. The soda should be taken an hour before meals, 45 grains at a dose, the ipecac in small doses ($\frac{1}{30}$–1 grain), repeated several times at half-hourly intervals after meals. The following formulæ are recommended:

1. ℞	Tinct. ipecac. . . .	ʒ iss
	Saccharini	gr. iss
	Menthol	gr. iv
	Spiritus (80 per cent.) . .	ʒ i
	Syr. simpl.	ʒ iv.

M. Sig. Two to four teaspoonfuls.

The menthol is added in order to control the nauseating action of the ipecac.

2. ℞	Tinct. ignatiæ . . .	ʒ iss
	Tinct. ipecac. . . .	*m.* xv
	Tinct. anisi	*m.* lxxx.

M. Filter. Sig. Six drops in Vichy.

The treatment should be continued for periods of 10 to 15 days, with intervals of rest of one week. As the muscular power increases the secretions are also affected favorably.

Toxicity of Orthoform.—Part of the praise heaped on this drug in its capacity of local anesthetic agent is based on the belief that no toxic effects can be ascribed to it. DRS. ALBERTIN, POLLESSON, and ROLLET of the Lyons Hospital have, however, reported several cases in which the application of orthoform to an extensive surface (as for burns) has been followed by symptoms of intoxication (headache, nausea and vomiting, fever, and erythema) which disappeared shortly after removal of the applied drug. The symptoms, while not severe enough to be dangerous, were very unpleasant, and sufficed to indicate to the physicians in charge that orthoform should be used cautiously and in small quantities.

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ORIGINAL ARTICLES.

SYPHILIS OF THE EYE AND ITS APPENDAGES.[1]

BY CHARLES STEDMAN BULL, M.D.,
OF NEW YORK.

IT is not possible, in the brief time alloted to this paper, to give any detailed account of the various syphilitic affections of the eye and its appendages. It has, therefore, been deemed wiser to refer very briefly to the rarer lesions of a syphilitic nature met with here, and to devote most of the paper to an account of the commoner syphilitic affections which are likely to be encountered by the general practitioner. To this end I shall begin with the anterior or superficial lesions; those which are recognizable by the naked eye without the aid of any instrument of precision.

Syphilis of the Eyelids.—In the eyelids we meet with four varieties of syphilitic lesions: (1) The chancre; (2) papules or tubercles, the so-called tubercular syphilide; (3) rupial ulcerations; (4) gummata. These all occur in both lids, more frequently the lower lid, and at both canthi; and usually involve the edge of the lid.

The chancre may occur on the edge of the lid, involving both skin and conjunctiva, though it is sometimes met with on the skin surface alone, or on the conjunctival surface alone, or very rarely on the conjunctiva of the eyeball. It probably originates by inoculation of the virus in the mouths of the excrepry ducts of the glands of the skin or mucous membrane. It begins as a small pimple with much itching and irritation. Then the summit becomes excoriated, the ulcer grows broader, but rarely deeper, and assumes a saucer shape. The edges are firmly indurated, and the floor is moist and covered with grayish-yellow débris. The base is distinctly indurated for some distance beyond the ulceration, and the lid may be much swollen. Induration of the neighboring glands is an almost constant symptom.

The two principal modes of contagion are unclean fingers, and the diseased mouth, lips, and tongue.

Diagnosis.—The resemblance of a chancre to a broken-down or ulcerated tubercular syphilide is often misleading. The latter has not the characteristic induration, and its edges are sharply punched out. A hordeolum has an acute course, is painful, its base is not indurated, and it heals rapidly after being opened. A chalazion has a narrow, deep opening, with soft edges, and no induration. Rodent ulcer and epithelioma have some points of resemblance to a chancre of the edge of the lid, but they occur, as a rule, late in life, have a red, granular surface, and the ulcer tends to spread along the lid, healing as it extends. Lupus may be confounded with a chancre, but is rarely confined to this site, and may be discovered elsewhere on cutaneous and mucous surfaces. Chancre of the lid is chronic and indolent, and is not very responsive to treatment. The induration is persistent and may remain for months after the ulcer has healed. It rarely leads to any serious loss of substance or distortion of the lid. Local treatment is of little or no avail.

Syphilitic eruptions of the eyelids are usually of the papular or tubercular variety. They are quite common on the skin surface, but are rarely met with on the conjunctival surface. They may occur at any age, and at almost any period of the constitutional infection. They may be confined to the skin, or may involve the entire thickness of the lid. They often ulcerate, the center of a papule or tubercle breaking down or sloughing. The papule may be of rapid growth and great size, but it does not extend deeply, and the destructive process is superficial. A tubercular syphilide extends more deeply and, in some cases, presents the appearance of a diffuse gumma. Microscopically, the two are one. The resulting ulcer is a deep, punched out cavity with mucous edges, irregularly crescentic in shape, and covered with a brownish-red deposit or crust. The tubercular syphilide originates in the corium or subcutaneous cellular tissue, and is painful on pressure. It may cause deep destruction and distortion of the lid. When healed the cicatrix has a central depression and peripheral pigmentation. It may be confounded with lupus, but the latter extends slowly, the nodules are softer and rarely suppurate, and the cicatrix is diffuse and white. From epithelioma it must be distinguished mainly by the results of constitutional treatment.

Gummata, when confined to the skin or edge of the lids, are not common. They are characterized by a dense, board-like hardness, and the skin becomes of a reddish-brown color. When nodular and

[1] Read before the New York Academy of Medicine, March 16, 1899.

isolated, they are one and the same with a tubercular syphilide. When diffuse, the whole lid is swollen. The process may be either acute or chronic, and usually other symptoms of syphilis are present. When the whole tarsus seems to be infiltrated, it has received the name of tarsitis syphilitica. The infiltration is chronic and indolent and is generally located in the upper lid. There is no pain and no secretion. The tumor is hard and resisting, the lid cannot be everted, and ptosis is present. The swelling is homogeneous, and the skin is not usually involved. The cure is never a complete one, for after the absorption of this dense infiltration, more or less deformity of the tarsus remains, and it has entirely lost its normal resistance.

Syphilis of the Conjunctiva. — Syphilitic lesions occurring primarily in the conjunctiva are not common, especially in the cul-de-sac or ocular conjunctiva.

Conjunctivitis.—In syphilitic patients we not infrequently meet with an obstinate conjunctival inflammation, with little or no secretion, which does not yield to the ordinary local applications, but does to appropriate constitutional treatment. It is very apt to accompany cases of obstinate syphilitic iritis.

Chancre.—The chancre of the conjunctiva, not involving the eyelid, is a very rare lesion. It has been met with in the cul-de-sac, where the palpebral conjunctiva is reflected over upon the eyeball; and also in the ocular conjunctiva near the corneal margin, and in the lacrimal caruncle.

Syphilitic Eruptions.—Papules or pustules of the conjunctiva appear as small, circumscribed, elevated, non-vascular spots of a reddish-gray or coppery color. They may appear singly, or several may develop close together and subsequently coalesce.

Mucous patches on the conjunctiva closely resemble mucous patches met with on other mucous membranes. They may ulcerate, and then appear as shallow, irregular sores, with a tawny surface and ill-defined base. They respond readily to treatment, and cause but little contraction of tissue. When the papules or pustules ulcerate they have a fatty-looking coating, irregularly eroded edges, and uneven base. They usually cicatrize rapidly, and if on the edge of the lid, the cicatrix appears as a tendinous white cord. The isolated occurrence of these superficial ulcers of the conjunctiva has been regarded as symptomatic of constitutional syphilis.

Gummata.—True gumma of the conjunctiva is the least common of all syphilitic lesions of the eye, and is always a late manifestation of the disease. It may be either circumscribed or diffuse. It appears as a small, discrete nodule in the conjunctiva, varying much in size, with a yellowish summit and a red base. It tends to disintegrate and ulcerate rapidly. If these gummata appear in the ocular conjunctiva, they may coalesce and form a zone of dense infiltration around the cornea, interfere with its nutrition, and cause ulceration or abscess.

Congenital Syphilis.—The poison of inherited syphilis does not seem to have any marked tendency to manifest itself either in the conjunctiva or eyelids, though patches of excoriation and actual loss of substance are occasionally met with in connection with similar manifestations on the face and scalp. The skin of the lids in syphilitic infants is usually thick and opaque, and the ciliary margins of the lids often show little pits and scars, the signs of former eruptions. We sometimes meet with well-marked instances of blepharo-adenitis of syphilitic origin, with patches of excoriation with sharply defined edges, and of irregular shape, near the canthi. The whole edge of the lid is then apt to be inflamed and swollen. No mucous patches or gummata are ever met with in these syphilitic children.

Syphilis of the Lacrimal Apparatus.—Constitutional syphilis rarely attacks the lacrimal apparatus primarily. The most frequent source of secondary affections of these organs is orbital periostitis, or periostitis of the nasal duct. Inflammation and ulceration of the nasal mucous membrane extends by contiguity of tissue to the lining of the nasal duct and thence to the lacrimal sac. Then follow more serious lesions of the nasal duct with the group of symptoms so familiar to all, of purulent discharge from the sac, stricture of the duct, phlegmonous inflammation of the overlying tissues, ending in abscess and the formation of a lacrimal fistula. Finally caries and necrosis of the nasal process of the superior maxilla take place, which usually permanently distort or obliterate the nasal duct.

Lacrimal Gland.—Inflammation of the lacrimal gland occasionally occurs from extension of the process from an orbital periostitis to the fibrous envelope of the gland and thence to the connective tissue framework of its interior. There is usually exophthalmos, severe pain, and a distinct swelling at the upper and outer angle of the orbit. The lacrimal gland has also been known to be the seat of a gummatous infiltration, a secondary process extending from the surrounding connective tissue. The symptoms are the presence of a tumor at the upper and outer angle of the orbit, displacement of the eyeball downward and inward, at times severe pain in the orbit, and extreme sensitiveness to pressure. The tumor not only extends backward into the orbit, but forward beneath the conjunctival cul-de-sac and upper lid, causing ptosis.

Lacrimal Caruncle.—The caruncle may become

inflamed in consequence of dacryocystitis or caries of the lacrimal bone, and may also be involved in a chancre, which has occurred at the inner canthus of the lids, or in the neighboring ocular conjunctiva. Gummatous infiltration of the caruncle has been described by Dr. R W. Taylor of this city. The caruncle becomes enormously enlarged, deep red in color, firm to the touch, and protrudes between the edges of the closed lids. Persistent antisyphilitic treatment causes a reduction in the growth and eventually atrophy of the caruncle.

Dacryocystitis and Stricture of the Nasal Duct.—This disease almost always extends from the nose, either through the medium of an inflamed and ulcerated mucous membrane or as a result of primary periostitis of the nasal duct or lacrimal bone. There is more or less epiphora, a sense of distention over the sac, then swelling with a discharge of mucus or pus from the puncta on pressure over the sac, phlegmonous inflammation of the overlying tissues, pointing of the abscess, ulceration and the formation of a fistula. It may be both an early and a late manifestation of the constitutional disease. The formation of a fistula should be prevented by an early incision of the cauliculi and sac and thorough division of the stricture of the duct, with the passage of a large-sized steel probe, while persistent constitutional treatment is kept up. If the disease has been of long standing, extensive disease of the superior maxilla is certain to be found, and it may prove impossible to open the caliber of the duct, on account of extensive disease of the bone, which may be either of a carious nature, or more rarely due to a hyperplastic process, with the formation of exostoses or periostoses in the orbital walls. Even here persistent antisyphilitic treatment often works wonders. Should the duct be found obliterated, it will be well to destroy the lacrimal sac by deep cauterization from the anterior surface, and allow the resulting cavity to close by granulation.

Chronic dacryocystitis with stenosis of the nasal duct is by no means an infrequent occurrence in inherited syphilis, and is due to disease of the bony walls of the duct, with periostitis and the development of exostoses.

Syphilis of the Cornea and Sclerotic.—The corneal lesions associated with *acquired* constitutional syphilis may be classified as follows: (1) Diffuse parenchymatous keratitis, which may involve either the center or periphery of the cornea, and which is always accompanied by iritis. (2) The true keratitis punctata in which numerous punctate foci of infiltration appear in the parenchyma of an otherwise transparent cornea, without iritis. (3) A later stage of the preceding, in which the punctate deposits are accompanied by a generally cloudy cornea and by iritis. (4) Gummatous degeneration of the cornea.

Parenchymatous or interstitial keratitis is far more frequently the result of inherited, than of acquired, syphilis. The acquired form is characterized by a cloudy opacity in the deeper layers of the cornea, consisting of a number of irregular, yellowish-gray spots, more or less closely connected together. These spots usually first appear at the center of the cornea and extend toward the periphery. In this cloudy parenchyma vessels are seen to enter at various depths. The deep circum-corneal ciliary injection is generally absent, and the subjective symptoms of photophobia and lacrimation are but little marked. The process is always slow, lasting not only weeks, but months and even years, and never ulcerates.

True *keratitis punctate* is characterized by the deposit of circumscribed gray spots in the parenchyma. There are no blood-vessels visible, and the intervening corneal tissue is transparent. These spots may disappear as rapidly as they appear, and they never suppurate. The iris does not seem to be involved in these cases.

Gummatous infiltration of the cornea begins at the periphery and extends a varying distance into the parenchyma. It closely resembles a tubercular syphilide, and usually breaks down and suppurates just as the latter does, and ends in perforation of the cornea.

All these varieties of keratitis belong to the late period of constitutional syphilis. They are all very chronic, but yield to persistent treatment. The local treatment consists of hot fomentation, atropin and cocain, and leeches to the temple

The Cornea in Inherited Syphilis.—Our knowledge of the form of keratitis occurring in the subjects of inherited syphilis, we owe mainly to Mr. Jonathan Hutchinson. Chronic interstitial keratitis here begins as a diffuse haziness at the center of the cornea of one eye, with little or no evidence of congestion. There is some irritability of the eye and dimness of vision. The opacity consists of dots in the parenchyma, which at first are distinct from each other. In the course of a few weeks the whole cornea has become more or less densely opaque by extension and confluence of these punctate deposits. The appearence of the eye in this stage has given rise to the name "ground-glass cornea." There is then developed a zone of ciliary injection, and there is photophobia and pain. After a varying period of weeks or months the other cornea is attacked and follows the same course. Vision may be reduced to perception of light. This is sometimes followed by a still more severe stage, in which the whole cornea

becomes scarlet from enormous development of vessels in the parenchyma. The clearing up of the opacity is always excessively slow, but in the course of a year or more the improvement is decided. Even in the most favorable cases, the vision is never quite entirely regained. Almost all these patients present a peculiar physiognomy, consisting of a coarse, flabby skin, pits and scars in the forehead, scars of old fissures at the angles of the mouth, a sunken bridge to the nose, and a set of permanent teeth peculiar for their small size, bad color, and crescentically notched edges of the central upper incisors. When interstitial keratitis and the notched "Hutchinson teeth" are met with in the same patient, the two symptoms are pathognomonic of inherited syphilis. Most of these cases occur in children between the ages of eight and fifteen years. This keratitis is rare in infancy and very rare in adult life.

Syphilis of the Sclerotic.—In this dense, fibrous membrane, syphilis causes two processes: (1) Episcleritis or scleritis, the two being different phases of the same lesion, and (2) gummatous infiltration of the sclerotic.

Episcleritis or Scleritis.—The symptoms are one or more patches of deep congestion on the eyeball, more or less infiltration of the superficial layers of the sclera and a corresponding elevation of the conjunctiva. The vascular injection is deep red or purple in color, and is very deep. There is dull pain and a sense of pressure in the eye. There may be complications on the side of the iris and ciliary body. The disease is very chronic, rarely ends in suppuration, and always leaves behind it a bluish or brownish discoloration. If very chronic in its course, the sclerotic becomes very much thinned from atrophy, and allows the choroidal pigment to become visible; and this always favors the development of staphylomata.

Gumma of the Sclerotic.—This is a purely localized infiltration, somewhat distinctly circumscribed. The growth is generally flattened, but sometimes attains a large size. These gummatous deposits usually occur in the course of the straight muscles of the eye, and are more frequent on the temporal side of the eye. They are moderately hard, sensitive to the touch, and very vascular. Persistent constitutional treatment will effect a cure, but with some distortion of the eyeball. Gumma of the sclera is always a late manifestation of the disease and rarely exists without the choroid or iris also being involved.

Syphilis of the Uveal Tract, Iris, Ciliary Body, and Choroid.—Syphilis may involve the entire uveal tract in one eye alone or in both eyes simultaneously or it may involve the iris or choroid alone. The ciliary body is probably never alone involved.

Syphilis of the Iris.—Iritis is one of the most frequent symptoms of constitutional syphilis. It is in the great majority of instances an early lesion, though it is met with as a late manifestation. As a rule only one eye is attacked at first, though the other soon becomes affected. It may be of three varities: plastic, serous, or gummatous. The first two varieties do not differ in their symptoms from iritis due to other causes. The sole variety of iritis absolutely indicative of syphilis is the iritis gummosa, and to this variety alone should the term "syphilitic iritis" be applied.

Symptoms.—In plastic iritis these are: deep ciliary injection forming a zone of short, deep, straight vessels around the corneal margin; turbidity of the aqueous humor; swelling and discoloration of the iris; more or less immobility of the iris; irregularity in the shape of the pupil; exudation in the field of the pupil, upon the capsule of the lens; photophobia; lacrimation; defective vision; pain, and increased tension of the eyeball. All of these symptoms may be present, though some are occasionally wanting.

In serous iritis, in addition to the above symptoms, there is a punctate deposit of exudation upon the posterior surface of the cornea. This form of inflammation usually involves also the ciliary body and choroid.

In iritis gummosa the real syphilitic iritis, in addition to the above symptoms, there may be seen in the iris one or more distinct, yellowish-red, nodular elevations, varying in size from a hemp-seed to a pea, either in the sphincter region, or at the periphery, which show a tendency to coalesce.

The prognosis is generally good in the plastic or serous varieties, but doubtful in the gummatous form owing to the tendency of the disease to extend to the ciliary body and end in atrophy of the globe.

Treatment.—The local treatment should consist of hot applications frequently repeated, atropin more or less frequently, leeches to the temples if the pain is severe, and dark glasses. Except in very bad cases, these patients need not be kept in a darkened room. The patient should be brought under the influence of mercurials as rapidly as possible and, if the lesion is a late manifestation, potassium iodid in large doses should be administered. If the attack has resulted in permanent adhesions between the iris and the capsule of the lens it may be necessary subsequently to perform iridectomy in order to allow the iris more play, and to prevent relapsing attacks of iritis and the dangers of subsequent glaucoma.

Syphilis of the Ciliary Body.—Cyclitis, like iritis, may be plastic, serous, or gummatous. It is a serious disease tending to destruction of the eye, and the prognosis is always unfavorable.

Symptoms.—These are usually ciliary injection, very severe pain, tenderness on pressure, diminished tension, diminished vision, due to exudation into the vitreous humor, and a plastic exudation between the posterior surface of the iris and the suspensory ligament and capsule of the lens. The aqueous humor is turbid, and there may be punctate deposits on the posterior surface of the cornea. In cyclitis gummosa the gummatous infiltration has a strong tendency to involve the sclerotic and iris. Here the prognosis is most unfavorable, the whole eyeball tending to shrink rapidly into phthisis bulbi. The treatment locally and generally is the same as for iritis.

Syphilis of the Choroid. — Syphilitic choroiditis may be divided into two classes: one which attacks the anterior segment of the choroid, and is usually connected with iritis and cyclitis, and that variety which is more or less closely confined to the posterior segment of the eye. Both these varieties are known as choroiditis disseminata. The first variety is usually called irido-choroiditis, is always of a severe type, with boring pain, rapidly failing vision, dense opacities in the vitreous, diminution of tension and, in bad cases, rapid atrophy of the eyeball, contraction of the vitreous, and detachment of the retina. The posterior choroiditis is almost always a chronic process, and always involves the retina, and hence, the disease should be called chorioretinitis. Ophthalmoscopically, the disease shows in reddish-yellow or yellowish-white patches of exudation of irregular shape and size, accompanied by a fine dust-like opacity in the anterior part of the vitreous. These patches soon tend to assume an atrophic aspect, and are then surrounded by a zone of pigment. There are several different varieties of this posterior inflammation, which are not easy to differentiate. In the anterior form of the disease the opacities in the vitreous are cobweb-like, or densely membranous, which are sometimes fixed and sometimes floating. The vision is always at once and materially affected.

Treatment.—The treatment consists in the local use of atropin to put the ciliary muscle at rest, occasionally, leeches to the temple; dark glasses, plenty of fresh air, and the bringing of the patient as rapidly as possible under the influence of mercury and potassium iodid. Should the optic nerve become affected strychnin is indicated. The disease is very obstinate in resisting treatment, and the vision is always permanently impaired, even in the most favorable cases, owing to the retina being involved in the degenerative process. The whole uveal tract may be involved in children as a result of inherited syphilis, and even intra-uterine iritis and choroiditis disseminata have been found in the newborn child. In some cases the writer has seen both pupils blocked by plastic exudation from an intrauterine iritis.

Syphilis of the crystalline lens, as a primary disease, is unknown. Opacities of the lens and its capsule are met with in syphilitic patients, but only as a result of inflammation of the uveal tract.

Inflammation of the vitreous humor, or hyalitis, never occurs primarily from constitutional syphilis. It is always due to cyclitis or choroiditis.

Syphilis of the Retina and Optic Nerve.—Inflammation of the retina alone, distinct from optic neuritis, is not a common lesion in constitutional syphilis. Associated with choroiditis it is one of the commonest symptoms met with.

Simple retinitis is a rare disease, diffuse in character, and its symptoms are mainly ophthalmoscopic. The fundus is indistinct, there being a distinctly defined mist-like, grayish opacity extending over the posterior zone, and like rays along the course of the blood-vessels. The outlines of the optic disc are blurred, and the disc is very hyperemic, owing to the presence of engorged veins. There is marked diminution of central vision, with a central scotoma in the field, which may be annular. There is night blindness; there are various photopsic manifestations, and sometimes there is photophobia. The prognosis is usually favorable and vision is restored under proper treatment, but the disease is subject to relapses. If the optic nerve becomes involved in the process the prognosis is unfavorable.

Sometimes the retinitis is of the exudative type, with patches of yellowish deposit all over the fundus, accompanied by hemorrhages. This does not differ from the same disease due to other causes, and the prognosis is much more unfavorable.

Central recurring retinitis is a very rare form of syphilitic disease. It is characterized by an opacity in or at the macula, and the appearance of small, white, punctate spots grouped around it. The disturbance of vision and the opacity at the macula appear suddenly, disappear in a few days, but recur in a few weeks. In subsequent attacks there occur irregular white streaks, radiating from the optic disc in all directions. The prognosis is rather unfavorable on account of the marked tendency of the disease to recur again and again.

Almost all cases of retinitis due to syphilis are associated with inflammation of the optic nerve and should be classed under the head of neuro-retinitis.

Syphilis of the Optic Nerve.—When the optic nerve is affected by syphilis, there may be marked ophthalmoscopic changes in the optic disc, or none at all. The visible ophthalmoscopic changes are of three kinds, *viz.*, papillitis or "choked disc," neu-

ritis descendens, and atrophy of the disc. When no ophthalmoscopic changes are visible, the symptoms are all subjective, and consist of, first, amblyopia or amaurosis; second, hemianopsia dependent on disease of some portion of the optic tract between the chiasm and the occipital lobe; third, a flittering scotoma. The optic nerve may be affected in some portion of its entire course independently, or secondarily, by propagation of the diseased process from the surrounding tissues. When both eyes are simultaneously affected, it is proof that the lesion has involved either the sheath of the optic nerve, or the nerve itself, or both.

Papillitis, or Choked Disc.—This is an inflammation of the intra-ocular end of the optic nerve. It is characterized by intense swelling of the optic disc due to general edematous infiltration, marked stasis in the retinal veins and ischemia in the retinal arteries. The edema extends a varying distance into the surrounding retina. Bilateral papillitis points to the existence of some intracranial process which has caused an increase of the intracranial tension and indirect compression of the optic nerve, but it does not indicate the nature of the lesion which has caused the increased tension. If the papillitis is unilateral, the lesion may be situated entirely within the orbit. The defect in vision does not always correspond to the ophthalmoscopic picture. There may be very little disturbance of vision and no defect in the visual field.

If taken in time the prognosis of papillitis, if the cause is intra-orbital, is fairly good under proper treatment. If the lesion is intracranial, the prognosis is always doubtful.

Neuritis Descendens.—This depends on inflammatory changes in the nerve substance itself, caused by an extension of an inflammatory process from the surrounding tissue to the sheath of the nerve, and thence to the nerve-fibers. This process may extend to the nerve-fibers from the central parts of the brain. Unilateral neuritis descendens points to a lesion in the corresponding nerve-trunk between the chiasm and the orbital end of the nerve. Bilateral neuritis descendens points to a lesion in the nerve between the chiasm and occipital lobe. The most common cause is some gummatous infiltration of the brain or meninges. Vision is first affected peripherally and the defect generally extends toward the center. Both papillitis and neuritis descendens may end in an atrophy of the optic nerve.

Atrophy of the Optic Nerve.—Three forms are met with: (1) Inflammatory atrophy due to papillitis or neuritis descendens. (2) Cerebral atrophy. (3) Spinal atrophy.

In inflammatory atrophy, the disc is an opaque, dirty yellowish-gray color, with blurred outline, and obscured by a mist. The arteries are very much reduced in caliber and surrounded by white streaks (perivasculitis). In cerebral atrophy, the disc is brilliantly white, the outline sharply cut, the lamina cribrosa very distinct, and the vessels but slightly reduced in caliber. In spinal atrophy the disc is bluish-white, the outline sharply defined, and the vessels but slightly reduced in caliber. This is the kind of atrophy met with in ataxy.

In those cases of optic nerve trouble with no ophthalmoscopic evidence of disease we must depend on the presence of functional disturbances to form an opinion as to the location of the lesion. If the loss of vision is confined to one eye, the lesion *may* be in front of the chiasm, though it may also be situated in the posterior part of the internal capsule, or even in the cortex. If it is in the internal capsule, there is also present contralateral anesthesia of the other cranial nerves.

In left lateral hemianopsia the lesion must be sought in the right optic tract. In right lateral hemianopsia, it is in the left optic tract, between the chiasm and the occipital cerebral lobe, and usually between the cerebral peduncle and the chiasm. In rare instances both retinitis and optic neuritis have been found in new-born children, the results of inherited syphilis of the intra uterine type.

Syphilis of the Ocular Muscles and Motor Nerves.—Pure myopathic processes due to syphilis scarcely ever occur in the ocular muscles, the lesion almost always involving the motor nerves or their nuclei, and this lesion may be located in the brain, or at the base, or in the orbit. In the latter case the cause is a lesion of the orbital wall, involving the origin of the muscles. Syphilitic paralyses of the ocular muscles are generally late manifestations, rarely occurring within the first six months. They may develop rapidly or slowly, and are obstinate in resisting treatment. Many never are cured. The lesion is usually a gummatous infiltration at the base of the brain, or endarteritis in the vicinity of the nuclei. Isolated paralyses of the eye-muscles are not infrequently the first symptom of general syphilis.

In about three-fourths of the cases it is the motor oculi which is affected, and the abducens in about one-fourth. A very frequent form of syphilitic paralysis is unilateral ophthalmoplegia interna, or paralysis of the sphincter iridis and of the ciliary muscle, and about three-fourths of such cases are syphilitic. Here the cause is endarteritis. Paralysis of the fourth nerve due to syphilis is very rare. Sometimes these ocular paralyses are very late symptoms, the constitutional disease has apparently been cured, and are then usually the forerunners of tabes.

Symptoms.—The most common symptom is diplopia, which may be either homonymous or heteronymous. If the third nerve is affected, in whole or in part, the images are crossed or heteronymous. If the sixth nerve is involved the images are homonymous. In the former case there may be a divergent squint; in the latter, a convergent squint. If there is a difference in the height of the images, the superior or inferior rectus is involved, and it is again the third nerve. If the entire trunk of the third nerve is involved, the eye is divergent, there is ptosis from paralysis of the levator palpebræ, the iris is widely dilated, and the accommodation is paralyzed.

The prognosis is fairly good, but the longer the paralysis has lasted the more unfavorable is the outlook for a cure. There are some rare instances of muscular paralyses due to inherited syphilis.

Syphilis of the Bony Walls of the Orbit.—Disease of the bony walls of the orbit is not a very common manifestation of syphilis. The lesions which occur here are: (1) osteoperiostitis; (2) gumma or syphiloma of the periosteum; (3) periostosis, hyperostosis or exostosis; (4) caries and necrosis. They are all late manifestations of the disease.

Osteoperiostitis may be acute or chronic. It is manifested by pain and swelling, generally around the orbital margin, and exophthalmos, if the lesion be deeply seated in the orbit, the protrusion being to one side instead of straight forward.

Gummatous periostitis or gumma of the periosteum is always a slow, chronic process, and involves generally the superior orbital margin, but cases have been met with where the syphiloma developed at the bottom of the orbit, in which case the most marked symptom would be the exophthalmos. Both these processes may end in caries and necrosis, in which case a fistulous opening is formed either through the conjunctiva, or through the tarso-orbital fascia and lid, and several sinuses may form and open at a long distance from the real site of the disease.

The varieties of chronic hyperplastic bone disease met with in the orbit are periostosis, hyperostosis, and exostosis. They are all of rare occurrence, and may go on without any signs of inflammation until the excessive development of bone tissue has reached an enormous size. The exostoses, however, are generally the result of long continued periostitis with suppuration. These diseases are interesting mainly from their rarity, for they respond but slowly or not at all to treatment. In rare cases, however, orbital exostoses disappear rather rapidly under treatment. Periostosis and hyperostosis have in a few instances been met with in young children, the subjects of inherited syphilis.

ETIOLOGY AND FREQUENCY OF SPORADIC PURULENT MENINGITIS.

BY L. NAPOLEON BOSTON, M.D.,
OF PHILADELPHIA;
BACTERIOLOGIST TO THE PHILADELPHIA HOSPITAL; INSTRUCTOR IN OBSTETRICS IN THE MEDICO-CHIRURGICAL COLLEGE OF PHILADELPHIA.

THE records of post-mortems made at the Philadelphia Hospital from April 4, 1894, to October 26, 1898, show that during this time there were eighty instances in which some form of meningitis was present. The number of cases in each variety is as follows[1]: Leptomeningitis, 8; basilar meningitis, 9; pachymeningitis, 20; pachy- and basilar meningitis, 4; basilar and leptomeningitis, 3; complicating typhoid fever, 1; basilar (subacute) 2; chronic, 10; hemorrhagic of brain, 1; hemorrhagic of cord, 2; hemorrhagic tubercular, 1; tubercular, 6; purulent, 13.

The etiologic factors that may contribute toward sporadic cerebrospinal meningitis are many, and rarely the same as that of the epidemic variety; however, in most instances, sporadic cases of purulent meningitis are secondary to a similar infection elsewhere, as disease of the cranial bones, otitis media, mastoid, nasal, or ethmoid disease, erysipelas of the scalp,[2] traumatism, or by extension along the cranial vessels or nerves. Aside from these cases due to direct extension, there are cases of metastatic meningitis, which may be encountered accompanying pneumonia, rheumatism, dysentery,[3] endocarditis, empyema, puerperal sepsis, anthrax and scarlet, typhoid, and other fevers, where the exciting cause is carried through some of the circulatory channels; and lastly, cases due to no describable cause other than primary infection. It is the second and third varieties that I wish to illustrate by the following cases (Case I. is reported through the courtesy of Dr. John Guiteras, Pathologist, and Dr. David Riesman, Assistant Pathologist, and Case IV. through that of Dr. Frederick Packard):

CASE I.—S. S., male, black, aged thirty-one years, was admitted to the medical ward with the following history: cough, pain in left side, headache; had been expectorating blood-streaked material for some days. Physical examination disclosed all evidences of lobar pneumonia, affecting the base of the left lung. Conjunctivæ jaundiced; examination of urine showed presence of bile-pigment and albumin. Two days later he developed severe pain in the abdomen and head, followed by wild delirium, nystagmus, ptosis, and aphasia, which were soon followed by coma and death.

Autopsy showed extensive purulent meningitis, the exudate covering the entire brain, but more

[1] Classified from pathological diagnosis and notes.
[2] Analysis of 1674 cases of erysipelas showed meningitis as a complication in one instance (Anders).
[3] Two purulent cases complicated dysentery.

marked at the base and in the parietal regions. The spinal cord was not examined. There was consolidation of the left lung involving the entire lower lobe and a portion of the superior lobe (stage of gray hepatization). The kidneys were in a state of cloudy swelling. Other viscera showed jaundice and the usual changes present in febrile conditions. Cultures contained only pneumococci as did cover-slip smears from the meningeal exudate.

Case II.—F. C., female, aged thirteen years, was admitted to the nervous ward in a semi-comatose condition. Friends stated that her trouble began four days before admission by pain in the head, neck, and back. The head was retracted and drawn to the left, eyes turned to the right, pupils equal, reflexes absent in arms, not increased in lower extremities. Mild delirium with apparent consciousness at times. Temperature 101° F., on admission, fell to 100° before death, which took place a few hours later.

Autopsy revealed the presence of purulent meningitis, involving meninges of both brain and cord, forming almost a complete envelope of exudate which gave the brain a greenish-yellow tint. Several of the cultures from the meninges were sterile, but one from the brain showed bacillus cadaveris and staphylococcus pyogenes aureus; while one from the cord showed only diplococci. Cover-slip preparations showed bacilli and micrococci.

Case III.[1]—J. H., male, white, aged twenty-six years, was admitted with a history of having been seized with headache and vertigo some hours before. On entering the hospital he became unconscious. There was slight facial paralysis, rigidity of the right side; increased reflexes, and slight retraction of the head. Temperature 100° F. on admission, and there was a constant rise to 106° F. prior to death, which occurred two days later. Examination of urine showed a trace of albumin. No sugar, no casts.

Autopsy revealed an extensive purulent exudate infiltrating everywhere the pia mater and arachnoid of both brain and cord, giving to these organs a yellowish tint. Ventricles were distended with fluid and on puncture of meninges in lumbar region considerable fluid escaped. Exudate was also found to extend over roof of third ventricle. Cultures from the meninges of the brain were found to contain the colon bacillus. No cultures were made from the cord. Cover-slip preparations were found to contain bacilli. On section the meninges presented many bacilli and a few organisms which appeared as micrococci.

Case IV.—R. G., white, about middle age, was admitted to the hospital in an unconscious state. His condition was regarded as a unilateral cerebral lesion. He died ten days after admission. At autopsy a small area of apparently purulent meningitis about 1 cm. in diameter was found along the left fissure of Sylvius. There was also an area of softening in the right lenticular nucleus. Cultures from this localized area of meningeal inflammation showed the micrococcus tetragenus.

[1] A detailed report of case made by Dr. J. H. Lloyd, *Internat. Med. Jour.*, November, 1898.

CASES OF PURULENT MENINGITIS AT THE PHILADELPHIA HOSPITAL DURING THE LAST FOUR YEARS.

No. of cases.	Month.	Sex.	Age.	Color.	Nati'n'lity.
1	April	Male	6 months	White	American
2	June	"	1 week	"	"
3	October	"	13 months	"	"
4	"	"	26 years	"	"
5	April	"	64 years	"	Irish
6	June	"	26 years	"	German
7	March	"	31 years	Black	American
8	May	Female	7 months	White	"
9	August	Male	37 years	Black	"
10	October	"	52 years	White	German
11	January	"	26 years	Black	American
12	July	"	26 years	White	"
13	September	Female	13 years	"	"

In the accompanying table I have considered only those cases in which either the pathological diagnosis or notes pointed clearly to purulent meningitis. Cases in which there was doubt I have placed under other headings.

Strümpel states that cerebrospinal meningitis has continued in Leipsic since 1864, a few cases occurring each year. From a brief review of the literature I think the same can be said of Philadelphia since the epidemic of 1863, an account of which was given by Stillé. From the records of this hospital purulent meningitis is a rather common occurrence, being present in 16¼ per cent. of all cases in which any form of meningitis existed.

Cases IX., X., and XIII. were regarded by the pathologist as tubercular. In all cases in which the middle ears were examined the results were negative. Without a bacteriological examination it is impossible to say how many of these cases were purulent, but from the pathological notes I am disposed to believe that some of the cases classified as basilar were probably purulent. It is indeed certain that the pneumonia bacillus sometimes secondarily reaches the meninges and here excites purulent suppuration (Strümpel). The same author also regards this organism as an exciting cause when pneumonia does not exist. Holt, in an article on the bacteriology of the epidemic form of the disease, states that the diplococcus of pneumonia is the organism commonly found, but by no means the only one. "In sporadic cases also, it plays an important part." He credits Netter with having reported twenty-five sporadic cases, of which eighteen were due to the pneumococcus, four to the staphylococcus and streptococcus pyogenes, and various other bacteria in the remainder.

Here is probably the opportune place to speak of the relation between the epidemic and sporadic forms of this disease. Since the report of the Mas-

sachusetts State Board of Health, setting forth the investigations made by Councilman, Mallory, and Wright, we can no longer regard the pneumococcus as the cause of epidemic meningitis. These investigators have clearly shown that this form of the disease is produced by the diplococcus intracellularis. The majority of sporadic cases in which bacteriological examination had been made were found to be due to the pneumococcus. However, cases are recorded as being due to the tubercle bacillus, bacillus pyocyanus, bacillus meningitidis purulenti, bacillus anthracis, and typhoid, colon, and the various pus-producing micrococci. The writer is inclined to regard sporadic purulent meningitis as a condition capable of being the results of any pus-producing organism, and with rare exceptions, due to causes other than those involved in the production of the epidemic form. It has been suggested that all forms of purulent meningitis not due to the diplococcus intracellularis prove fatal.[1] This, however, can only be decided by careful bacteriological study of the meningeal fluid during life, and needs further investigation to throw any true light on the subject.

In Case I. no organism, other than the diplococcus of pneumonia, was present. The same organism being found in the lung is sufficient evidence to regard both the meningitis and pneumonia as due to the micrococcus of pneumonia. In Case II. there was a mixed infection. The diplococci found resembled closely in microscopic appearance the diplococcus intracellularis of Weichselbaum, yet its development on different culture media gave widely different reactions, resembling in this respect the organism commonly found in nasal secretions. Here the staphylococcus pyogenes albus may have played an active part in the process, and to what extent the diplococcus contributed toward the condition cannot be estimated. Cultures in Case III. showed only the colon bacillus, and cover slip preparations, made from the exudate, contained bacilli. Sections of the meninges were found to contain bacilli, and few apparent micrococci, which prevent determining positively that the case in question had for its sole cause the colon bacillus. Case IV. was regarded by the neurologist as one of syphilitic softening. The only organism which could have contributed toward the condition was the micrococcus tetragenus.

The City with the Lowest Death-rate.—The death-rate in Erie, Pa., was 10.87 in 1896; 10.94 in 1897, and 10.53 in 1898. The population of Erie was estimated by the Mayor, January 1, 1898, to be 57,000. It is doubtful if many other cities can show as good a death-rate for three consecutive years; but Toledo, with 150,000 inhabitants, had a death-rate in 1898 of 10.33.

[1] Report of the Massachusetts State Board of Health, 1898.

RECENT INVESTIGATIONS UPON MALARIA.[1]

BY W. S. THAYER, M.D.,
OF BALTIMORE, MD.

UP to the last year our ideas as to the manner of infection in malaria have been mainly speculative. There have been three chief hypotheses: (1) That the disease is acquired through the gastro-intestinal tract; (2) that infection takes place through the inhaled air; (3) that the poison may gain access to the body through the bites of insects.

The solution of this problem has been greatly delayed by our ignorance as to the form in which the malarial parasites exist outside the human body. Experiment and analysis of the evidence go to show that there is little to support the view that the disease may be acquired through the gastro-intestinal tract. Experiments by Mariotti and Ciarocchi, Marchiafava and Celli, Marino, Zeri, Grassi, and Feletti have shown that the administration of large quantities of water from highly malarious districts, by the mouth, by rectum, and by inhalations, as well as the actual ingestion of blood containing living malarial parasites, is incapable of causing infection.

And while in the absence of our knowledge of the form in which the parasites exist outside of the body it is difficult to positively disprove the possibility that the disease may be acquired by inhalation, there is no thoroughly satisfactory evidence in its support. On the other hand, it has been known for many years that inoculation, subcutaneous or intravenous, of the blood of an infected individual will transfer the disease. Some years ago Laveran advanced an hypothesis that infection might take place through the bites of mosquitoes. Since this expression of opinion several other similar diseases in animals, diseases due to hematozoa, have been shown to result from the bites of insects. Thus, the parasite of Texas-cattle fever, an organism in many ways similar to the malarial parasite, has been shown by Professor Theobald Smith to be transmitted by the bites of the cattle-tick (*Boophilus bovis*), while the Tsetse-fly disease or nagana is introduced through the bites of the Tsetse-fly. More recently Patrick Manson of London has been an ardent supporter of the idea that the mosquito might play an important part in malarial infection.

In all varieties of the malarial parasite certain forms upon reaching maturity fail to sporulate, but in many instances after five, ten, or fifteen minutes undergo a process of flagellation, which was early described by Laveran, the separate flagella breaking away often from the mother element, moving about rapidly in the blood with an act-

[1] Remarks made at the Centennial Meeting of the Medical and Chirurgical Faculty of Maryland, Baltimore, April 25–28, 1899.

ive serpentine motion. There has been much dispute as to the significance of these elements. Laveran believed that they represented a very important stage in the life history of the organism, while Dock first suggested that they might be bodies intended to preserve the life of the parasite outside of the human body. The Italian observers, as a rule, vigorously opposed these views, believing that flagellation was a degenerative progress.

Manson, who had demonstrated the fact that the mosquito forms an intermediate host for the filaria sanguinis hominis, ventured the hypothesis that this insect might play a similar part in connection with malaria. Surgeon-Major Ronald Ross, acting upon the suggestion of Laveran, observed the development of flagellate bodies in the fresh blood within the stomach of the mosquito. This single observation was not remarkable, inasmuch as the same is often noted when mature parasites are observed for a sufficient length of time outside of the human body. But afterward in carefully studying mosquitoes he observed remarkably large pigmented structures in the stomach wall of several insects which had previously bitten infected human beings. The pigment in these elements was so similar to that previously contained in the malarial parasite that the observer was impressed with the possibility that they might represent some extra-corporeal stage in the life history of the malarial organism. At this stage in Ross' researches the malarial season came to an end, and he was obliged to continue his studies upon the parasites of birds which, as is well known, are closely similar to those of human malaria. The results of these observations of Ross form the most important contribution to our knowledge of this subject that has been made since the discovery of the parasite by Laveran. If a certain variety of mosquito, the gray mosquito (*Culex pipiens*), be fed upon birds infected with the *proteosoma* (Abbé), there appear, two days after feeding, in the wall of the middle intestine of the insect, pigmented bodies similar to those just described. These structures gradually increase in size until at the end of the seventh day they have a diameter as large as sixty micromillimeters. They have a distinct capsule and contain a granular material showing at first a few pigment granules which afterward disappear. On reaching maturity they protrude from the surface of the mosquito's intestine into the body cavity. Shortly after this period rupture occurs, and a large number of small spindle-shape trypanosome-like bodies escape which enter the circulation of the mosquito. Ross further discovered that many of these accumulate within the cells of the veneno-salivary gland of the mosquito. The outlets of this gland unite into a common duct which descends to the extremity of the mosquito's proboscis. The discovery of these spindle-shaped bodies in the cells of the salivary gland instantly suggested to Ross a possible method by which infection might occur. And experiments showed that mosquitoes fed a proper length of time before upon infected birds were capable of transferring the disease to non-infected birds in almost every instance. Ross' admirable experiments, conducted with the parasites of birds, the nature and behavior of which is so similar to those of the malarial parasites that they have by some individuals been considered to be the same organism, abundantly justified the assumption that similar conditions might exist with the parasites of human beings.

At the same time, independently of Ross' work, Italian observers, Bignami, Grassi, and Dionisi, had come to the conclusion, from careful study of the etiological conditions of the disease, that the theory of infection through the bites of mosquitoes was by far the most probable hypothesis in connection with malarial fever in man. Grassi had gone so far as to narrow down upon two particular varieties of mosquito, the *Anopheles claviger* and the *Culex penicillaris*, as the probable varieties of mosquito which were capable of inoculating the disease. The ordinary house-mosquito, the *Culex pipiens*, that in which Ross had been able to cultivate the parasites of birds, Grassi believed to be harmless. Bignami, indeed, succeeded apparently in inoculating with malaria a human being who had voluntarily subjected himself to the experiment by subjecting him to the bites of these suspicious varieties of mosquito. Ross communicated the results of his experiments to the Italian observers, sending them specimens illustrative of the conditions observed, and during the months of November, December, and January, Grassi, Bignami, and Bastianelli succeeded in completely confirming all that Ross had found in birds upon the human being. They have shown that if examples of the *Anopheles claviger* be placed upon an individual infected with malaria in whose blood full-grown forms capable of flagellation exist, bodies almost exactly similar to those described by Ross appear on the second day in the stomach wall of the insect, undergo similar processes of development, and rupture, setting free the same small spindle-shaped bodies which accumulate in the cells of the salivary gland. The experiment has been rounded out to complete success in the case of the estivo-autumnal parasite. Three mosquitoes which ten days before had been allowed to bite an individual infected with estivo-autumnal malaria were placed upon a non-infected individual, the result being the development of a characteristic estivo-autumnal malaria.

The three mosquitoes were killed after biting this individual and full-grown bodies were found in the walls of the stomach, while the cells of the salivary gland were filled with the small spindle-shaped "sporozoids."

The result of these observations has, therefore, been a positive demonstration of one method by which malarial infection may occur, namely, through the bites of mosquitoes. Is this the only method? This is a question which as yet we cannot answer. From analogy with similar diseases, and from a careful study of the etiological conditions of malaria, the Italian observers are strongly inclined to believe that this is the case.

Are we to assume that the mosquito can acquire the parasite only by biting infected human beings? Is it not probable that there are other forms in which the parasite exists outside of the human body? These are questions which remain to be answered. It should be said that certain of the capsule-like bodies in the stomach wall of the mosquito do not give rise to these small spindle-shaped structures, but contain a smaller number of large brown spores which there is some reason to believe may be more resistant forms of parasite, and may possibly be transferred in some way to the mosquito larvæ.

An interesting point in connection with these discoveries is that they have completely supported Laveran in his original view that the flagellation of the malarial parasite was an important vital process and not as others had supposed, degenerative in nature. The first important observations tending to support this view were, as is well known, made by MacCallum two years ago. MacCallum showed that in certain parasites of birds, as well as in the human being, the free flagella penetrate other full-grown forms of the parasite in such a manner that there can be little doubt that the process is one of fecundation. In the birds' parasite, in which this process was first studied the fecundated form changed into the active "*pseudo-vermicule*" described by Danilewsky. This pseudo-vermicule has a sharp point and a steady forward motion as observed under the field of the microscope which enables it to penetrate into and destroy almost any object in its way. As soon as Ross discovered the pigmented bodies in the stomach wall of the mosquito he assumed that the parasite gained entrance into the walls as a pseudo-vermicule, the result of fecundation as described by MacCallum. The discovery of MacCallum, then, seems to supply the last link in the chain, inasmuch as it will be remembered that both Ross and the Italian observers insist that the presence in the blood of forms capable of flagellation is necessary to the development of the pigmented structures in the stomach wall.

In connection with this work, a few remarks concerning the observations of Professor Koch, which have been appearing during the last year, may not be out of place. Both in the reports of his studies in Africa and in a recent communication in the *Deutsche medicinische Wochenschrift*, in which he describes his studies in Italy, Koch has detailed observations confirming much that has been done by French, Italian, American, Russian, and German observers. The publications have, unfortunately, appeared in such a form as to give most readers the impression that the observations are original discoveries. They have been so regarded in many non-medical, and in some, particularly German, medical publications. It is but fair to say that Professor Koch's observations, while entitled to all the attention which is of course due to their distinguished author, are solely confirmatory in nature. Koch has not as yet made a single original observation in this field. Everything which he has described has been previously worked out and reported by others, and it is unfortunate, as Dr. Nuttall has elsewhere observed, that his publications should have taken such a form.

CLINICAL MEMORANDUM.

A SURGICAL SUGGESTION.

THE PURSE-STRING METHOD FOR TONSILLAR HEMORRHAGE.

By ROBERT H. M. DAWBARN, M.D.,
OF NEW YORK;
PROFESSOR OF SURGERY IN THE NEW YORK POLYCLINIC MEDICAL SCHOOL; SURGEON TO THE CITY HOSPITAL.

In a lecture upon tonsillar hemorrhage some little time ago, as reported by a friend and former student of mine, Professor Lefferts alluded to my method, suggested for use only in obstinate cases, of a purse-string suture about the tonsillar stump, tightened and tied; and he gave it a *coup de grace* by alleging that it is impossible of accomplishment—the patient meanwhile struggling, etc.

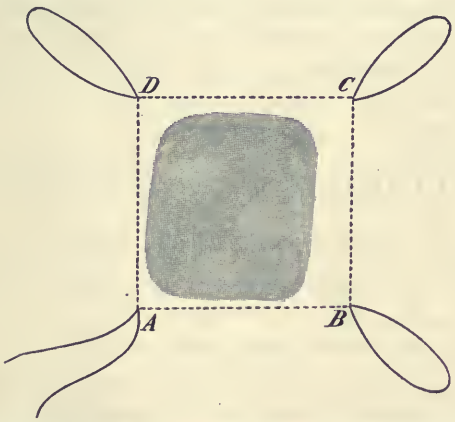
The fact is, however, that I have myself in one instance (*Medical Record*, December 17, 1892) used this impossible method successfully and did not find it even difficult. But my patient was, *of course*, asleep from anesthesia. Previous to and during the chloroforming the patient was gagged and the tonsillar stump was held between the forefinger on the stump and the thumb outside, on the angle of the lower jaw, so that little or no bleeding went on. Then the anesthetized patient was placed with the bleeding side uppermost, and by the aid of a forehead mirror and a large, semicircular needle, with needle-holder, the constricting purse-string was placed quickly and with ease, as the blood ran away by gravity from the surface I wished to see.

As the bleeding regularly comes mainly from one of the ascending two of the six tonsillar arteries it would seem sensible to begin with the lowermost of the four

stitches necessary (*A* to *B* in the accompanying diagram). Very possibly tightening this will be found to control the bleeding, and thus either render the other three stitches even easier of insertion, or perhaps needless. The silk purse-string thus tied around the base of the stump should remain in place from thirty-six hours to two days. The ends being left a little long will facilitate removal.

Regarding the cases in which this device may be needed it is admitted that although children may *almost* die from tonsillar hemorrhage they do not *quite* do so. This fact is, however, no excuse for trying every other plan which may perhaps succeed before using one so simple and safe and which must succeed.

It is in adults with tough, hard, hypertrophied tonsils that the ugliest cases of bleeding are found as a rule. Not every practitioner has a snare, which, it is admitted, would, if used slowly, be safer for the amputation in these adults than is the guillotine. To avoid the purchase of one more instrument by the overburdened general practitioner I would suggest as a new departure that when from the na-



The shaded portion represents the tonsillar stump. The letters indicate the order in which the needle is four times introduced, following the dotted lines.

ture of the offending tonsil he has reason to fear trouble, he would do well to place my purse-string suture *before* using the tonsillotome. To do this upon the adult and before any bleeding has occurred is certainly easy enough —and under minor anesthesia—the patient sitting upright in a good light. It is worth noting that eucain *B* is better than cocain when tonsillotomy is in question because the eucain does not contract arterioles and thus shrink the tonsillar mass so that the surgeon cannot remove as much as he otherwise would do. Anesthesia being accomplished, we now do the tonsillotomy and tighten up the suture previously applied in case bleeding justifies its presence as a precautionary measure.

On October 24, 1898, I had an opportunity to make use of the plan. The patient, Mr. A. L. O'B., a middle-aged dispensary patient, had a very large, hard, and chronically tender left tonsil, which for many years had annoyed him, inducing numerous sore throats and threatening quinsy each time, with great swelling and pain, but never actually suppurating. No trouble was experienced in passing the precautionary purse-string after applying for ten minutes a large compress wet in 10-per-cent. eucain *B* solution. It was with a pleasant sense of security against dangerous bleeding that the amputation was then performed. Perhaps the amount of blood that would ordinarily have been lost might not have jeopardized his life, but this patient was quite anemic and I preferred that he should not lose even a drop of his vital fluid needlessly; therefore, in this instance, I tightened and tied the purse-string before amputating the tonsil. Of course the result was an entirely bloodless operation. Enough morphin was subsequently employed to render the patient moderately free from annoyance by the suture, which was removed after thirty-six hours in this instance, eucain *B* being again applied before the stitch was cut and drawn out.

Regarding the depth to which the needle may safely go, this is considerable. The ordinary estimate is that the internal carotid is 1.5 cm. away from the base of the stump; the external carotid 2 cm.; and both rather behind the tonsil than transversely opposite to it. The late Dr. Hall, when professor of anatomy in the College of Physicians and Surgeons, New York, made some special dissections regarding these points, and taught that the external, not the internal, carotid is the nearer to the tonsil, and that in event of severe hemorrhage this will regularly come mainly from the ascending palatine branch of the facial artery.

There is no need for entering the needle deeply in the purse-string method. It is obvious that all we need is to have it far enough beneath the surface to avoid its cutting or tearing its way out while being tied. For the same reason the silk should be quite coarse, ordinary pedicle-silk by choice. It must, of course, be boiled first.

In conclusion I offer a diagrammatic sketch showing the placing of the four stitches in their proper order. Of course when the ends are pulled upon the three loops will all disappear beneath the surface.

MEDICAL PROGRESS.

Incision and Evacuation of Distended Intestinal Loops in Obstruction.—MAYLARD (*Brit. Med. Jour.*, April 8, 1899) says that he has obtained better results in his operative work in cases of intestinal obstruction since he has followed the plan of making one or more incisions into the distended loops of intestine and evacuating the contents before returning them to the abdominal cavity. It is easy to protect the peritoneum from infection by bringing the loop well outside before opening it, and afterward closing the incision with a Lembert suture before the loop is replaced. The handling of the intestine which this treatment entails seems to do good rather than harm, acting as a stimulant to muscular contraction and emptying the engorged blood-vessels. If peritonitis is present, the injection of about an ounce of sulphate of magnesia in solution should be made through the evacuatory incision after the bowel has been emptied of its fecal matter.

Resistance to Quinin of Certain Forms of Malaria.—CAMAC (*Johns Hopkins Hosp. Bull.*, April, 1899) says

that the temperature-chart after the administration of quinin will often enable a physician to determine whether or not a fever is malaria, and if so, of what type. It is desirable to know the character of the fever-curve before quinin is given. Fever which shows no sign of breaking after the administration of quinin every four hours for three days, is not malarial, and to give the remedy a further trial is not only useless but possibly harmful. If the fever yields earlier than the third day on moderate doses, it is likely to be of the tertian or quartan type, either double or single. In the estivo-autumnal type the temperature often fails to touch normal between the paroxysms. Its resistance to quinin has led Italian observers to speak of the gradual destruction of its parasite by quinin, as "fractional sterilization." In this form, naturally, the administration of the quinin should be continued longer than in the others.

Malaria with Typhoid Fever.—In a discussion on typhoid fever occurring among soldiers of the late war with Spain, DA COSTA (*Phil. Med. Jour.*, May 6, 1899) reported ten cases of typhoid fever complicated with malaria. There was no doubt about the clinical diagnosis, and it was in almost every case confirmed by the Widal test and by microscopical demonstration of the malarial parasite. In every case it was the tertian or estivo-autumnal organism which was present, generally the former. The majority of the patients had no chills before the typhoid developed, nor until late in the disease, possibly during a relapse. The chill was followed by marked temperature rise and sweating. The course of the fever was slow in all of these patients, lasting for more than four weeks. One case existed without chills. The practical conclusion is that one ought to examine the blood for malarial parasites in every case of typhoid with prolonged and irregular fever, or with chills, or with frequent relapses. In some of Da Costa's cases the malarial organism was not found at the first examination, but was found later. From 16 to 20 grains of quinin given daily for a few days was found to be sufficient to break up the fever. Smaller doses were then administered to full convalescence.

A New Method of Drainage after Suprapubic Cystotomy.—KACZKOWSKI (*Centralbl. f. Chir.*, March 18, 1899) has devised an apparatus which prevents the leakage of urine into the tissues after suprapubic cystotomy, and therefore materially hastens the time of recovery as well as adds to the comfort of the patient. It consists of an hour-glass-shaped balloon of rubber, through the center of which a catheter passes, and which has a little tube through which air can be forced into the apparatus to distend it. It is introduced immediately after the operation, and is blown up tight enough to prevent leakage around it. The catheter can be clamped or not as occasion demands. The use of this simple device is said also to prevent infection of the bladder from without. The inventor has used it in one case with perfect satisfaction.

The Cross-Suture of Tendons.—VULPIUS (*Klin. Ther. Woch.*, March 12, 1899), who has had a personal experience with some 70 cases of cross-suture of tendons, speaks in the most encouraging manner of this method of making good the loss of function occasioned by a partial paralysis. Over fifty of these cases occurred in patients suffering from paralytic flat-foot, or club-foot, either equinus or calcaneus. Some of the cases were simple, as those in which the extensor hallucis tendon was affixed to that of the tibialis anticus, while in some instances, parts of different muscles had to be sutured to the tendons of two or three paralyzed muscles. In other instances the sartorius was sutured to the tendon of the quadriceps; or the flexor carpi ulnaris to the tendons of the extensor longus digitorum. Such operations in the upper extremity are more difficult than in the lower, as the individual muscles are better developed and it is harder to educate them to an opposite use. A middle group of muscles, corresponding to that of the peronei is besides wanting. The necessities of each case must be studied, as one can not go by regular rules in this method of treatment.

Report of Progress in Dermatology.—GILCHRIST (*Maryland Med. Jour.*, April 8, 1899) gives a summary of the recent advances in dermatology. White has shown that ringworm of the scalp in Boston is generally (97 per cent. of the cases) of the small-spored variety. Under the microscope mosaics of glistening round spores 2 or 3 micromillimeters in diameter are seen clustered around the hair. Epilation, washing with Castile soap and warm water every morning, and the application of the following ointment will suffice to effect a cure in six months in most cases:

℞.	Sulph. flor. } aa Acid carbolic }	. . . .	3 i
	Naphthol	. . . . .	3 ss
	Adipis	. . . . .	3 i.

In the large-spored cases the spores are usually quadrangular with rounded corners. Treatment of these scalp cases is much more severe than in the small-spored variety, and one has to perform epilation and apply such drugs as mercury, chrysarobin, pyrogallic acid, and formaldehyd.

Unna's plan for the treatment of eczema of the palms and soles consists in the application every four to six hours of starch poultices to which a little boric acid has been added. A good deal of the sodden epidermis is removed by rubbing with a rough, soft, dry cloth between the changes of poultices. In about four or five days the palms become soft, smooth, and pliable. The following ointment is then applied:

R.	Acidi pyrogallici oxidati	. .	gr. v-xxx
	Lanolini	. . . . .	ʒ ss
	Ol. amygdal. } aa Aq. dest. }	. . .	3 ii.

A liquid soap which Skinner has found very useful in dermatological practice consists of oleic acid, 2 ounces; alcohol, 90 per cent., 3 ounces; solution of ammonia, a sufficiency, and water to 6 ounces. The ammonia is added drop by drop until the odor can faintly be detected. It is then allowed to stand for seven days and filtered through kaolin.

As a good general ointment for eczema the same authority recommends anhydrous wool-fat, ½ ounce; camphor, 30 grains; glycerin of subacetate of lead, ½ ounce, and coal-tar if indicated.

Suture of the Sphincter Ani Muscle in Cases of Complete Tear of the Perineum.—KELLY (*Johns Hopkins Hosp. Bull.*, January-March, 1899) draws particular attention to the control of the function of the bowel exercised by the sphincter muscle, asserting that a tear in this muscle will cause fecal incontinence. Even in cases in which the anus presents a normal appearance the surgeon should not fail to recognize that the sphincter may be ruptured and the torn ends separated by a considerable interval. Kelly's operation under such circumstances is intended to avoid the objections which have been raised to the operations of Emmet and Hegar. Hegar's plan is to suture the internal sphincter by fine silk and the external sphincter by fine catgut. What Kelly insists upon is the more thorough dissection of the ends of the sphincters, and the removal of all fibrous tissue. If in addition the external sphincter is separated from the overlying skin for a considerable distance, it will lie deeper after the sutures have been inserted, and hence danger from infection will be lessened. If the tear is in the external sphincter only, it is freed as described for a half inch or more, and the catgut sutures inserted but not tied. The rectal mucous membrane is then sutured, the suture line extending out over the skin. Then the sutures in the sphincter are tied, and afterward a silkworm-gut suture is inserted to take the tension off from the buried sutures in the sphincter. When the internal sphincter is also involved its ends are sutured by fine silk stitches which enter and leave through the mucous membrane of the rectum. Post-operative enemata of warm oil given through a soft catheter are recommended.

THERAPEUTIC NOTES.

Local Treatment of Pneumonia in Children.—CHASE (*Boston Med. and Surg. Jour.*, April 13, 1899) had an opportunity to study the value of external applications in the treatment of pneumonia in children. Most of the forty-five patients observed lived in tenement-houses. The surroundings were, therefore, not especially favorable. All but two were over a year old. Of thirty-nine who had lobar pneumonia, thirty-eight recovered. Six had bronchopneumonia, and of these four recovered. The effect of poultices was especially noted. These were made light, of flaxseed and cheese cloth, and covered with oiled silk or paraffined paper, and weighed not more than 6 ounces. They were placed on the affected part while the child was in bed, and removed in 30 or 40 minutes. Rarely were more than six or eight applied in twenty-four hours. Observation convinced him that poultices diminish pain, and have a soothing effect, often producing sleep; that they relieve dyspnea and reduce the number of râles; that they are rarely opposed by the children, and by adding to the comfort of the patient they maintain his strength and so facilitate his recovery.

Mustard paste was tried in a few cases and seemed also of benefit.

To reduce hyperpyrexia, the writer made use of cold sponging with water and alcohol. No case was observed in which a cold pack seemed indicated, but the cases were mild, and in no instance did the temperature reach 104° F., and remain there for six hours.

Emphasis is laid on the importance of fresh air, and of judgment on the part of the nurse to let the child remain quiet when it so desires, and to turn it when it becomes choked by secretion.

Treatment of Ozena by Citric Acid.—HAMM recommends insufflations of a mixture of equal parts of citric acid and sugar of milk, practised three times a day by the patient, in addition to a daily flushing of the nasal fossæ. He claims that the fetid odor is entirely removed by this treatment, even if pus and crusts continue to form, this favorable result lasting for some time. Secretion is also diminished.

Tribromid of Salol in Mental Diseases.—VIALLON has employed this drug as a sedative and hypnotic in the asylum at Dijon, and has found it comparatively valueless for acute cases of mania, etc., or for hysteria, but very useful for cases of chronic mania, general paralysis, etc., in which periods of excitement occur. Thirty grains given at 7 P.M., in soup or some other liquid, induces sleep, or at least a diminution of excitement. Viallon considers it superior to bromid of potassium for such cases.

Elixir of Terpin Hydrate for Bronchitis.—The following formula is recommended by CRINON:

℞	Terpini hydrat.	gr. lxxx
	Glycerini } aa	℥ iiss
	Spiritus }	
	Mellis despumat. . . .	℥ ii
	Tinct. vanillæ	*m.* lxxv.

M. Sig. Two to four tablespoonfuls a day.

For Burns of Small Area.—

℞	Europhen	gr. xlv
	Vaselini } aa	℥ i.
	Lanolini }	

M. Sig. For external use. Apply 3 or 4 times a day.

Dressing for Umbilical Cord.—In connection with the dry treatment of the cord, by which baths are delayed until healing is complete, the infant being bathed on the lap only, while care is taken not to wet the umbilical region, argilla (alumina) is recommended as an excellent cord-powder. It is applied twice a day until several days after the cord has become detached. Suppuration is said never to occur when this method is adhered to.

For Migraine of Hysterical Patients.—

℞	Ext. erythroxyli fl. . . .	℥ i
	Sodii bicarb.	gr. xl
	Sherry wine	ʒ iiss
	Oleosacchari limonis . . .	gr. lxxx
	Aq. melissæ	℥ iii.

M. Sig. One teaspoonful 3 times a day.—*Leyden.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

COMMUNICATIONS in the form of Scientific Articles, Clinical Memoranda, Correspondence, or News Items of interest to the profession are invited from all parts of the world. Reprints to the number of 250 of original articles contributed exclusively to the MEDICAL NEWS will be furnished without charge if the request therefor accompanies the manuscript. When necessary to elucidate the text illustrations will be engraved from drawings or photographs furnished by the author. Manuscript should be typewritten.

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SATURDAY, MAY 20, 1899.

CHRISTIAN SCIENCE AND THE PRACTICE OF MEDICINE.

A NUMBER of deaths have recently occurred of people suffering from various disorders while under the treatment or rather the non-treatment of Christian Scientists. These have again attracted public attention acutely to this cult. Two of the deaths have been in the neighborhood of New York City, and it is a satisfaction to note that in each case the authorities have taken steps to bring the matter before the proper legal tribunals.

The failure to convict Christian Scientists in other cities in various parts of the country probably foreshadows a similar failure in these cases. The principles of religious toleration and freedom of conscience are so stretched by the judiciary of the country as to include under that guise this sacrilegious imposition on the community.

This is unfortunate. Meantime no better course presents itself than to continue to stigmatize all this unwarranted, fanatical sacrifice of life and health by citing before the courts as criminals all those concerned in this unchristian work, so that a suitable public opinion on this subject may gradually be developed. It is true that persecution usually proves only a means to further fetter the minds and opinions of fanatics, and often leads them to a more vigorous propagation of their ideas, which are by this means effectively called to public attention. In this case, however, the publicity given the acts of so-called Christian healers who, for monetary considerations, at critical moments take upon themselves all responsibility for the life and health of fellowmen will be productive of none but good results.

The recent order of the president of the New York Board of Health to the assistant sanitary superintendents of the various boroughs of Greater New York is very timely. The characterization of the healers as "evil-minded persons, who take advantage of their more ignorant neighbors professing that they are endowed with wonderful healing faculties," while not true of the rank and file of the followers of Christian Science has proved in almost every case that has come prominently before the public to be true of those who professed to have wonderful healing powers. Sordid motives have evidently been the mainspring of their pretended exercise of the curative faculties given them by a knowledge of Christian Science.

This is a commendable effort on the part of the New York Board of Health to solve an important and knotty legal and medical question. The manner of getting at it, too, is well advised since it is proposed that these assistant superintendents shall cooperate with the various medical societies of their districts, and shall consult with them as to the best means of accomplishing the permanent suppression of these practices. That the Board of Health is acting well within its powers is evident from the fact, so strikingly brought out in our recent investigation of this cult, that for Christian Scientists no such thing as contagious diseases exists, and that their failure to recognize these affections constantly exposes people to infection. The matter is an important one, also, for the followers in Christian Science. We sincerely hope that the united efforts of the Board of Health by the judicious use of the power it possesses, in cooperation with the various medical societies, will prove successful in suppressing this criminal imposition on the credulity of misguided people.

CLIMATE IN THE TREATMENT OF TUBERCULOSIS.

AN impression that would have been inevitably received by that impressionable creature, the ordinary practitioner, in attendance at the recent meeting of the American Climatological Association here in New York is that the value of mere climate as a therapeutic factor in the treatment of pulmonary tuberculosis has greatly deteriorated of late years in medical estimation. It seems to be more and more generally conceded that it is not the combination of favorable meteorological conditions we call a suitable climate which has effected the cures of consumption at health resorts so much as the attention to rest, diet, hygiene, fresh air, and sunlight, which has always characterized the medical direction of patients in such places.

This impression as to the comparative efficacy of the regulated out door life rather than of mere climate is confirmed by a number of considerations apart from the proceedings of the Climatological Association. It has been clearly demonstrated by the valuable results obtained at such places as Davos, that even cold temperatures do not militate against the value of a place as a health resort for consumptives. Recent extensive European experiences with sanatoria for consumptives, especially in Germany, show that almost any climatic conditions and any altitude may favor the progress of a consumptive's cure if other therapeutic factors are properly provided.

In the vicinity of a number of the larger German and Swiss cities sanatoria for consumptives are giving excellent results. It seems only necessary that they should be situated at a reasonable distance from the dust and dirt and, above all, the contamination of the air incident to large bodies of population to prove suitable places for successful treatment of tuberculosis. Air, sunlight, rest, and nutrition are the essential elements in the successful treatment of phthisis. As these important indications have asserted themselves more and more, cures have been more common, and even the compromising hospital treatment of consumption in large cities has taken on a highly encouraging aspect.

It is an almost universal experience that consumptives improve even in the public wards of a general hospital when first admitted. Rest and suitable nourishment for these poor patients whose nutrition has often been neglected at once sets up a conservative reaction in the organism which causes general improvement. That this amelioration is not continued indefinitely is due to the fact that the disease is usually too far advanced in such patients to yield permanently to the improved environment. The monotomy of hospital life palls on them, vital interest is lessened, appetite diminishes from lack of proper exercise and general nutrition again suffers in consequence.

The lesson of these recent developments is a very interesting one for the general practitioner. It is difficult to induce patients with only incipient phthisis and very little discomfort, perhaps, to leave their homes and friends and go to a distant though favorable climate. It is not difficult, however, to persuade them to go a short distance from home, and that too at an early stage of the disease. The incipient stage is that in which rapid and permanent cure of the disease is effected by sanatorium treatment. Rest, careful attention to nutrition, sunlight, and pure air can be secured without traveling thousands of miles. And clinical experience has shown that cures are effected and lasting results obtained near home.

It is interesting to note how long it has taken for this idea to percolate into the present stratum of accepted medical truth. Years ago, as was stated at the Climatological meeting, Chicago, when a frontier town, was considered by Eastern physicians as a health resort for tuberculosis, and numbers of tuberculous patients were sent there. Good and lasting results were secured too in the early days, but finally the influx of population drove the health center farther West. The wonderfully clear air of Colorado and its possibilities in permitting patients to live out of doors has retained for it the reputation of a health resort despite growth in population. This has been fortunate, for the study there of the best conditions for the cure of tuberculous patients by a set of interested and eminent specialists has taught the world much of the therapy of the dread disease. Their wonderful country remains for the present the ideal place for consumptives who have the financial means and are willing to break up existing home ties and make a new home in a new country.

MEDICAL EDUCATION IN JAPAN.

The February number of the *Sei-i-kwai Medical Journal*, which has been published at Tokio for the last eighteen years by the Sei-i-kwai, or Society for the Advancement of Medical Science in Japan, contains an interesting account of the condition of medical education and practice in the Island Empire. Modern education in Japan dates back only some twenty years, and for that length of time in Tokio University only. Ten years will cover most of the modern education furnished in the other schools, so that one can gain some idea of the rapid changes for the better that have been going on in the last decade, and which are still in progress. Thus in 1897 it was ordered that the University of Tokio be duplicated at Kioto. This has been done as far as the departments of physics and engineering are concerned, but the medical department will not be opened until fall.

The Tokio Imperial University has 23 professors, besides a number of assistants, and a student attendance this year of 256. Like all other medical schools in Japan, it has a four-years' course, each year lasting from September to June. There are two hospitals connected with it, having 328 free beds and 186 beds for pay patients. The courses of study, including laboratory and clinical instruction, compare favorably with those of many American colleges. The fees are $2.50 a month, and are remitted to those of each class who the previous year received the highest marks for scholarship and good conduct. In the provinces there are five medical schools under the control of the Imperial Government, and three under the provincial governments of the particular provinces in which they are situated. There are also two private medical schools in Tokio. The graduates of the last two are required to pass a State examination before beginning practice.

There are at present about 40,000 licensed practitioners in the whole country, 6000 of whom received the license by virtue of their graduation from government schools; 8500 by passing the State examinations, while 24,000 (including 10,000 followers of the Chinese system, bone-setters, shampooers, administrators of acupuncture, priests, etc.) were in practice at the time the present law went into effect, and were accordingly licensed without examination. The remaining 500 persons are sellers of nostrums, charmers, and midwives, licensed for limited districts only, in which no physician is accessible. Thus it appears that more than one-half of those who practice the healing art have some knowledge of modern medicine, a very good showing indeed for the youngest member of the family of modern nations.

ECHOES AND NEWS.

The School of Medicine of Georgetown University.—The commencement exercises of this medical school were held May 15, 1899. The usual interesting program was presented, the address to graduates being delivered by Dr. John Madison Taylor of Philadelphia.

Commencement Exercises of Bellevue Medical School.—On Tuesday evening, May 16, 1899, the commencement exercises of the University and Bellevue Hospital Medical College were held at the Metropolitan Opera House, New York. There were 162 men in the graduating class. The president of the University, Dr. McCracken, presided, and the Rev. Dr. Burrell, pastor of the Collegiate Church, delivered the address.

Internes at the Cook County Hospital.—Dr. Hektoen of Chicago announces that the official statement regarding the successful candidates for the interneship in the Cook County Hospital at the recent examinations reads as follows: From Rush Medical College, 6; College of Physicians and Surgeons, 4; Northwestern University Medical School, 2. Of the four alternates two were from Rush and two from the College of Physicians and Surgeons.

To Disinfect Havana.—Mr. Woolf, the inventor of a system for making sea-water a germicide by means of electricity, is superintending the construction of a new disinfecting-plant which was expected to be in operation in Havana about May 15th. By this means 50,000 gallons of water will be sprinkled upon the streets of Havana every day. The water will also be used by the sanitary authorities for disinfecting the houses of fever victims.

The Prevalence of Smallpox.—The United States Marine Hospital Service reports that during the week ending May 6, 1899, there were reported in the United States 93 cases of smallpox with 5 deaths; in foreign countries 160 cases with 65 deaths. The high mortality from this disease in foreign countries is undoubtedly due to lack of vaccination. It is a well-known fact that previous vaccination renders an attack of smallpox mild and insignificant.

Officers of the New York State Board of Health.—The New York State Board of Health, at its annual meeting at Albany on May 11th, reelected Dr. Daniel Lewis of New York City as its president. Dr. F. W. Smith of Syracuse and Dr. S. Case Jones of Rochester were reelected tuberculosis commissioners. At the request of

Governor Roosevelt, Dr. Lewis and Commissioner Owen Cassidy were appointed a committee to investigate an alleged nuisance in Catskill caused by the State brick works in that city.

Officers of the Climatological Association.—At the recent meeting of this Association, held in New York, the following officers were elected for the ensuing year: President, Dr. Abraham Jacobi of New York City; vice-presidents, Drs. R. H. Babcock of Chicago and J. W. Brannan of New York City; secretary and treasurer, Dr. Guy Hinsdale of Philadelphia; representatives to the Executive Committee of the Congress of American Physicians and Surgeons, Dr. Frederick I. Knight of Boston and Dr. Roland G. Curtin of Philadelphia. The next meeting of the Association will be held at Washington, D. C., during May, 1900.

Pure Food Investigation.—The Senatorial Pure-Food Investigating Committee met in Chicago, May 11th. The first witness was Dr. Henry G. Piffard of New York City. He believed that Congress should order an investigation of every branch of food in the market and that pure-food laws should be fixed by Congress and accepted and supplemented by the State Legislatures. Professor A. B. Prescott, of Ann Arbor, Mich., discussed the effect of using preservatives on meat, which he considered deleterious. Professor Victor C. Vaughan, also of Ann Arbor, corroborated Dr. Prescott's testimony and declared that the adulteration of any kind of foods or drinks, if allowed, should be governed by law as to the extent of the adulteration and the kinds of adulterants used.

The Fifth District Branch of the New York State Medical Association.—The fifteenth annual meeting of this association will be held in Wurzler's Building, Brooklyn, Tuesday, May 23, 1899, at 11 A.M. The president's address, by Dr. Joseph D. Bryant, will open the discussion of malignant disease. This will be followed by Dr. Edward K. Dunham on "The Nature of Malignancy in Neoplasms," Dr. L. Grant Baldwin on "Malignancy in the Female Genito-Urinary System," Dr. Jonathan Wright on "Malignant Disease of the Nose and Throat," Dr. Max Einhorn on "The Early Recognition and Management of Malignant Disease in the Digestive System," Dr. J. S. Gouley on "Malignant Disease in the Male Genito-Urinary System," and Dr. Wm. B. Coley on "The Treatment of Inoperable Malignant Tumors."

Obituary.—Dr. William Arthur Gorton, for eleven years Superintendent of the Butler Hospital for the Insane at Providence, R. I., and widely known as an expert on insanity, died on May 1st in Boston, Mass.—Dr. Frederick Karl Christian Ludwig Büchner died in Darmstadt, Germany, on May 1st. He was seventy-five years old. Dr. Büchner was the author of the famous book on "Force and Matter," published in 1855, in which was set forth an atomistic and materialistic view of the universe. This book had great influence in its day as a popular exposition of the ideas of modern materialism. Dr. Büchner wrote many other works of the same character.—Dr. William Whitney Godding, Superintendent of the Government Hospital for the Insane in Washington died in that institution on May 6th.—Dr. William Russell, Harvard's oldest graduate, died on May 6th at Barre, Mass. He was ninety-nine years old.

Death of a Practical Philanthropist.—The death of Richard Cadbury, one of the firm of Cadbury Brothers, who, since 1872, have carried on a wholesale grocery-house and manufactory near Birmingham, has brought out many facts in reference to his personal and business life. His donations to various objects mount up into the hundreds of thousands of dollars; but even more interesting is the fact that from the day of the starting of the factory until the present time, when nearly 1500 people are employed in it, there has never been a strike, nor any difficulty about wages. The interest of the members of the firm in the social well-being of their employees has been untiring. There are cooking-, dining-, and reading-rooms connected with the factory buildings, and gardens and arbors outside of it for rest and conversation, and each morning before beginning work every one connected with the business, from the head of the firm down, gathered in the women's dining-room and listened to a chapter of the Bible and a few words of Christian counsel. Nearly all the work done was paid for by the piece and the service rendered was of the highest character. It is gratifying to record that such attention to the moral and physical health of their employees resulted in very handsome business returns to the owners of the establishment.

Christian Scientists Prosecuted.—Two cases in New York treated by faith "healers" are now engaging the public attention. The first is that of Mrs. Charlotte M. Barguet of Mount Vernon, who died on May 3d. Mrs. Barguet had been ill for a long time, but no physician was permitted to see her. Instead, one Mrs. Maggie Fowler, a Christian-Science "healer," by arrangement with a son and a daughter of the deceased, made many visits, during which she sat by Mrs. Barguet's bedside and meditated. This was all the "treatment" Mrs. Barguet received. Coroner Banning of Mount Vernon held an inquest on May 8th. An autopsy had been made by Drs. Nathan Nutting and George C. Meiss, who reported that death was due to dropsy and acute pleurisy. The Coroner's Jury rendered a verdict to the effect that proper treatment was "precluded by the deceased holding to the so-called Christian Science faith, aided, abetted, and encouraged by other followers of that faith, to wit: Mrs. Maggie Fowler, Liston W. Barguet, Jr., and Miss Ethel L. Barguet." Mrs. Fowler and Mr. Barguet are held in $1000 bail each to await the action of the Grand Jury; Miss Barguet is held as an accessory without bail. Two months ago Lizzie Krauz, twelve years old, of Brooklyn, became ill. Physicians were called in who advised her removal to a hospital, a toe on the left foot having become gangrenous. Instead, her mother dismissed her physicians and called in one Mrs. Müller of 312 East Twelfth street, Manhattan, having heard of remarkable healing powers that were attributed to the latter. Mrs.

Müller applied German tea and a paste to the affected limb and prayed that it might be cured. The limb grew worse and the mother, when the gangrene had finally spread to the knee, had the child removed to the hospital. The limb was amputated above the knee on May 6th and hopes are entertained of the child's recovery. Mrs. Müller received fees amounting to $51. She is not a registered physician and has no apparent authority from any source to practise medicine. She was arrested on a warrant issued by Justice Brenner and will be prosecuted. President Murphy of the Health Board has expressed a determination to prosecute all persons who pretend to cure disease by methods not sanctioned by enlightened medical practice. The assistant sanitary superintendent in each borough will hunt up fake "healers." Various medical societies are assisting the Health Board.

American Gynecological Society, Program of the Next Meeting.—The twenty-fourth annual meeting will be held at Philadelphia, May 23d, 24th, and 25th. The sessions will be held in the Hall of the College of Physicians, corner of Thirteenth and Locust streets. The profession is cordially invited to attend. First day.—Tuesday, May 23d, morning session at 9 o'clock. Roll-call, reception of guests, etc. Address of welcome by Dr. Edward L. Duer of Philadelphia. (1) "Early Abdominal Section for Fibroid Tumors, with a Tabular List of All Operations Prior to 1865," by Charles P. Noble of Philadelphia. (2) "Etiology of Non-malignant Rectal Stricture in Women," by Reuben Peterson of Chicago. (3) "Sixty-five Consecutive Abdominal Sections without Death; with Clinical and Pathological Reports," by Hunter Robb of Cleveland. (4) "A Case of Spondylolisthesis, with Demonstration of the Pelvis," by J. Whitridge Williams of Baltimore. Afternoon session at 2.30 o'clock. (5) "Report of the Committee on Antistreptococcic serum in Puerperal Sepsis," by William R. Pryor of New York. (6) "Report of a Case of Kraurosis Vulvæ," by J. Montgomery Baldy of Philadelphia. (7) "Inversion of the Uterus," by B. Bernard Browne of Baltimore. (8) "Thrombosis Following Celiotomy in Aseptic Cases," by Henry C. Coe of New York. (9) "Clinical Data Bearing upon Tubercular Peritonitis," by Egbert H. Grandin of New York. (10) "The Avoidance of Infection Following the Operation for Complete Tear of the Recto-vaginal Septum" and "The Localization of Obscure Pain in the Side," by Howard A. Kelly of Baltimore. Second day.—Wednesday, May 24th, morning session at 9 o'clock. (11) "Is a Sloughing Process at the Child's Navel Consistent with Asepsis in Childbed?" by Robert L. Dickinson of Brooklyn. (12) "Surgical Treatment of Acute Puerperal Sepsis, with Special Reference to Hysterectomy," by H. N. Vineberg of New York. (13) "The Abuse of the Curette in Puerperal Fever," by Robert A. Murray of New York. (14) "Experience in the Use of Tuffier's Angiotribe in Intrapelvic Surgery," by Clement Cleveland of New York. (15) "The Use of Compression Forceps in Salpingo-oophoorectomy and Hysterectomy, with Remarks upon the Angiotribe," by I. S. Stone of Washington. (16) President's address at 11 o'clock. Afternoon session at 2.30 o'clock. (17) "Vaginal Celiotomy," by A. Lapthorn Smith of Montreal. (18) "The Treatment of Broad Ligament Cysts by Vaginal Incision and Drainage," by T. J. Watkins of Chicago. (19) "Surgery of the Ovaries and Tubes per Vaginal Incision," by William H. Wathen of Louisville. (20) "Surgery of the Ovaries," by Fernand Henrotin of Chicago. (21) "Remote Results of Shortening the Round Ligaments by Vaginal Section," by Henry T. Byford of Chicago. (22) "The Scope of Vaginal Work," by J. Riddle Goffe of New York. Executive session at 5 o'clock. Third day.—Thursday, May 25th, morning session at 9 o'clock. (23) "Tuberculosis of the Kidney as an Indication for Nephrectomy," by Edward Reynolds of Boston. (24) Abdominal Operations for Conditions Complicating Typhoid Fever," by J. Wesley Bovée of Washington. (25) "Management of Surgical Injuries to the Ureters," by Beverly McMonagle of San Francisco. (26) "Use of Iodoform Gauze in Pelvic Disease of Women," by William R. Pryor of New York. (27) "Conservative Gynecology," by Seth C. Gordon of Portland, Me. (28) "Report of the Committee on the Use of Mammary and Thyroid Extracts in Solid Tumors of the Uterus," by William E. Moseley of Baltimore. In memoriam: (1) "Theophilus Parvin, M.D.," by William H. Parrish of Philadelphia. (2) "James H. Etheridge, M.D.," by Fernand Henrotin of Chicago.

VISIT OF THE AMERICAN CLIMATOLOGICAL ASSOCIATION TO THE LOOMIS SANITARIUM.

ON Thursday, May 11th, the members of the American Climatological Association, who had been holding their sessions for the two preceding days at the New York Academy of Medicine, devoted the third day of their meeting to a visit to the Loomis Sanitarium for Consumptives at Liberty, Sullivan County, N. Y. Through the courtesy of the Ontario and Western Railroad a special train was provided for them. Though not in the early part an ideal day for sight-seeing, the weather cleared in the afternoon, and gave an excellent opportunity to judge of the beautiful scenery and the invigorating mountain air. The opportunity to see the sanitarium and its surroundings under the unfavorable circumstances of a rainy day was not without its advantages, since it afforded an excellent idea of how light and free from depressing influences the atmosphere of the place is compared to that of the city and sea coast during rainy weather.

After a generous luncheon a visit in parties of eight or ten was made under the guidance of nurses and physicians to the dozen or more houses that make up the sanitarium. The institution is able to accommodate about seventy patients, and has at present very nearly that number of inmates. The charges per week are from $12 to $25, and at present there is difficulty in providing accommodations for all those who desire to come. There is a resident medical staff and eighteen nurses at the institution, though the infirmary is not large and is intended

rather for intercurrent illness among the patients than for those who are confined to their rooms and require constant medical care because of their advanced tuberculous condition. The latter class of cases is not deemed desirable, and there exists a city branch of the sanitarium for patients deemed incurable. The city branch is not self-supporting, but the sanitarium at Liberty is expected to be, and is proving itself to be.

That the directors of the Loomis Sanitarium were not mistaken in their opinion that there was need for an institution where a class of patients would get sanitarium treatment for tuberculosis for which they were able and willing to pay reasonable charges, if certain comforts and a certain amount of exclusiveness and association with others of their class were provided for them, is evident from the financial success of the institution. That the methods employed and the situation are eminently favorable factors for the treatment of tuberculosis is clear from the published results, which are excellent, and which bear comparison with the results of sanitarium treatment anywhere in the world.

A feature of the nurses' training at the sanitarium seems to deserve special notice. After the regular training of two years is finished nurses may stay for post-graduate work, which consists of practice in details designed to fit them for rendering assistance to doctors in their offices. They are taught the microscopy of sputum, the chemical and microscopical examination of urine, the keeping of doctors' accounts, and the making of abstracts from medical journals, including as far as possible abstracts from German and French; in a word, everything that will enable them to relieve the physician of certain routine work for which he often finds it difficult to get the time.

The members of the Climatological Association returned to New York City by their special train late in the evening well pleased with their visit and with many expressions of confidence in the future of the sanitarium treatment of tuberculosis as it is conducted at no great distance from the patients' homes.

CORRESPONDENCE.

THE YELLOW TINGE OF PALMS AND SOLES IN TYPHOID.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—Referring to your statement on page 467 that little attention had been given in this country to the yellow tinge of palms and soles in many cases of typhoid fever (I should say approximately 75 per cent. in my own observation—this guess being subject to correction from records) I beg to say that if you will consult the files of the MEDCIAL NEWS I am sure you will find an editorial reference to it from my own pen, crediting the observation, then recently reported from Germany, to the late Dr. Ellwood Wilson of Philadelphia. I have demonstrated it to my classes at the Philadelphia Hospital since 1890 as "Wilson's sign," and have known it since Dr. A. J. Biddle, who derived it from Dr. Wilson, showed it to me in 1883. How much older the observation is, I do not know. "It bobs up serenely" as something new every little while. Yours truly,

SOLOMON SOLIS-COHEN.

PHILADELPHIA, April 18, 1899.

PARTIAL RETENTION OF CONSCIOUSNESS DURING ANESTHESIA.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—Dr. Goldan's report of "An Extraordinary Case of Retained Consciousness During Anesthesia," in the MEDICAL NEWS of April 15th, seems to have created considerable interest among the medical profession. Will you kindly permit me to offer a solution of the phenomenon?

As is now well known, the nervous system is made up of a multiplicity of neurons, each consisting of a cell and two functionally different sets of processes, viz.: the dendrites and the axon or axis cylinder.

The psychic neurons, those located within the cerebral cortex, have exactly the same anatomical structure as a central sensory or motor neuron, that is, each one consists of a cell with its processes, its dendrites and axon. The axis cylinders must of necessity be extremely short, as they nowhere pass beyond the limits of the gray matter. When the processes of these neurons are agitated by stimuli it is felt by the ego as a sensation, from which, and upon which, is built the entire fabric of mentality. If there is a difference in the general mobility of the psychic neurons in different individuals why may there not be a difference in the mobility of the special neurons of any one individual?

I believe all will agree that anesthetics act by paralyzing the processes of the neurons. That under its influence they fall so far asunder that stimuli are powerless to bridge over the hiatus between them, consequently stimuli fail to reach the psychic elements of the brain, and as a natural corollary, no sensation can be felt. The processes of the common sensory neurons become paralyzed and, of course, sensation of pain cannot be evoked. In this manner, one by one, the areas involved in the special senses lose their sensibility until finally no form of stimuli finds its way into the mental precincts. The patient is then said to be fully anesthetized.

In the case of Dr. Goldan's patient I infer that she was fully anesthetized with but one exception, and that exception was the neurons concerned in the process of audition. I can readily understand how it is possible that the auditory neurons and those of the auditory centers might be the last to succumb to the influence of the anesthetic. It was only necessary for them to be a little more stubborn than those of the other senses. It required a more than ordinary degree of anesthesia to paralyze them. As long as their processes were not disconnected it was perfectly natural that they should perform their function as usual, and I see nothing extraordinary in the fact that the patient was conscious of a conversation going on; that she heard an instrument drop, or a knock at the door, or a voice through the speaking-

tube. If stimuli instigated by the waves of sound succeeded in passing the barriers between the auditory neurons and the psychic neurons of the auditory centers, the result could possibly be none other than the causation of the consciousness of sound. Yours truly,

H. H. STONER, M.D.

ROCK RAPIDS, IOWA, May 1, 1899.

[This application by our correspondent of the neuron theory to the phenomenon under discussion constitutes an interesting but extremely fanciful hypothesis and has the value of hypothesis only without even demonstrated or accepted analogy to support it. The neuron theory, even at the hands of its most enthusiastic advocates, has never extended to the psychic field. It is in its entirety an assumed premise and, therefore, may or may not be correct in its conclusions. It is, however, quite worthy of careful consideration.—ED.]

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

LIQUID AIR AS A GERMICIDE—TUMOR OF THE CAUDA EQUINA—TREATMENT OF RODENT ULCER BY CATAPHORESIS—PHENOMENA AND MECHANISM OF INHERITANCE—ANNUAL COMMENCEMENT OF JEFFERSON MEDICAL COLLEGE—HEALTH STATISTICS.

PHILADELPHIA, May 16, 1899.

"THE Resistance of Bacteria to Cold" is the title of a paper presented by Dr. M. P. Ravenel to the Pathological Society, May 11th, in which the results of some experiments with liquid air, made in March, 1898, were reported. The claim frequently expressed that liquid air is a germicide has led Dr. Ravenel to make this premature report, for while this agent has a temperature of 312° F. below zero, it is far from being proved that it is a germicide. Experiments were carried out by placing silk threads in sterile water to which had been added cultures of anthrax spore, diphtheria and typhoid bacilli, and the bacillus prodigiosus; these threads were then immersed in the liquid air for periods from one to sixty minutes, and then transferred to a culture-medium of bouillon. In no case was any effect noted upon the vigor or life of the organism. In the many experiments made in this line it has been found that sporeless organisms are retarded in their growth by freezing for one hour, and frequently destroyed when the time is extended beyond this period. Typhoid bacilli, however, have been found experimentally to be able to survive freezing in ice for more than three months, and practically we know this to be true, as is evidenced by the epidemic which occurred in this State in 1885, when feces after being frozen all winter caused an epidemic coincident with the spring thaw. In regard to the use of cold as a germicide, however, Dr. Ravenel concludes that it cannot be relied upon so far as any degree of temperature thus far obtained, with our present means of application, is concerned.

In the discussion Dr. Riesman asked whether 50° or 100° F. additional would make any difference after zero was once reached, to which Dr. Ravenel replied that he believed not. Dr. Stengel expressed himself as surprised that as long as liquid air is destructive to more highly organized tissue, it does not affect the organisms, for while a globule of liquid air may be held in the hand, owing probably to the formation of a layer of air under tension (vapor), which protects the tissue, the length of time to which the organisms were exposed excluded this phenomenon. It also seemed likely that cold would be injurious to the organisms inasmuch as ice to the chest in pneumonia is believed by some, though ridiculed by others, to do good and possibly does so by retarding the pneumococcus which is sensible to cold. Dr. Coplin called attention to the difference in the volatility of the gases forming liquid air, and suggested that changes might be induced in "stale" liquid air which would have some bearing upon the subject, to which Dr. Ravenel relied that these changes were present, "stale liquid air becoming blue in color as the oxygen volatilizes while normally it is of the color of glycerin."

At the same meeting, under the title of "Tumor of the Cauda Equina," Dr. Joseph Sailer reported a case of *primary sarcoma of the cord*, which is an extremely rare condition, only two cases (both doubtful) being recorded in the literature as primary, and only four authors having reported cases of secondary sarcoma, which were melanotic, as was Dr. Sailer's. The tumor, which was fusiform in shape (1½ by 2½ by ⅓ inches), granular, and contained numerous hemorrhagic foci, sprang from the left side of the cauda, and was enclosed in a firm capsule. There was no evidence of any infiltration of the cord, nor were the vertebræ diseased. The tumor was composed of pigment, spindle-shaped connective-tissue cells, with oval nuclei, and was in an unusual position, between the anterior and posterior roots of the left side. A most careful search failed to reveal the slightest sign of a tumor elsewhere in the body, and it was therefore regarded as primary.

At the Philadelphia County Medical Society, May 10th, Dr. G. Betton Massey exhibited a patient suffering from "rodent ulcer," or slow-growing epithelioma. When the patient, who was a physician, first presented himself, the ulcer was the size of two silver dollars, and had already eroded the eye, exposing the fatty tissue of the orbit and part of the skull. The treatment consisted in cataphoresis, produced by means of strips of zinc and mercury after small punctures had been made in the ulcer. Although cocain cataphoresis was done simultaneously, the patient was unable to stand a current of more than 2½ to 10 milliamperes. An immediate effect in the production of an area of necrosis, surrounded by new inflammatory tissue, was noted, according to Dr. Massey, and he regarded this, his first attempt to treat carcinoma of the short hair-follicles by cataphoresis, as a marked success.

Professor E. G. Conklin of the University of Pennsylvania. at the same meeting read a paper, entitled "Phenomena and Mechanism of Inheritance" in which he defined inheritance as the sum total of all the qualities which are passed from parent to offspring. As phenomena he mentioned the inheritance of like qualities, of qualities from the father or from the mother, and the blending of qualities from both as exemplified in the off-

spring of negro and white which usually takes a color between, or the blending of qualities which produce in the child entirely new attributes. He called attention to inheritance in anatomical characteristics, of which stature, color, etc., are examples; to physiological, of which longevity, the tendency to beget twins, etc., are examples; to pathological, of which monstrosities and deaf-mutism are examples.

As to the manner of mechanism, as all hereditary transmissions take place through two cells (the egg and the sperm), it is a question of studying the cells. This was discussed very fully by Dr. Conklin, the substance of his remarks being that as the chromozones of the cells are probably the bearers of hereditary traits, and these are equal in quantity in every cell in the body, it is evident why heredity is of the male as well as the female although the sperm is so small compared to the egg, for each contains chromozone which is constant in quantity.

Dr. Conklin's definition of acquired and inherited characteristics is that the former are those developed in response to extraordinary environmental and the latter to ordinary environmental conditions. Yet he believes they must both be truly inherited and as an example stated that to speak Chinese, English, and other languages is an acquired characteristic, yet *to speak* is inherent. Then arises the interesting question as to whether these *acquired* or unusual conditions will bring about like results in the second generation. There is little evidence to prove this true.

As an example it is supposed that changes due to use and disuse of faculties are the easiest to prove transmitted yet there is no evidence to support this view, for if it is adduced, as an example, that animals needing to climb and run have developed long limbs, so it can be deduced that animals who do not need to run should shorten their limbs which is not true. Dr. Conklin believes that *inherited habit* goes hand in hand with *inherited structure* and that evidence for hereditary mutilation is therefore unreliable, of which the "docking" of sheeps' tails which has been going on for years without resulting in any change in the natural tail, is an example. So, too, the experiment of a German botanist who transplanted plants from all parts of the Continent to his garden where, in the thirteen years he kept them, their descendants gradually acquired the characteristics of native plants; yet when transplanted back to their original habitat they immediately reverted to their original type. For these and other reasons, therefore, Dr. Conklin does not believe in the transmission of acquired characteristics. In the lengthy discussion which followed, Dr. Mills stated that he was inclined to believe in the transmission of acquired characteristics of which he believes there are many instances in disease. Dr. Riesman quoted Zieler as believing in this transmission and said that acquired immunity to disease, if transmitted, would prove this. The transmission of immunity, however, has not been proved, for rabbits made immune to tetanus give birth to young which are also immune *if they nurse from an immune animal*, but not otherwise. This would preclude the chromozone of the cell as being the seat of transmisssion. Dr. Lautenbach quoted Bell as having concluded that acquired deafness is not transmissible, though congenital deafness is.

Class-day exercises of the graduating class of Jefferson Medical College were held Saturday evening and the annual commencement on Monday. Hon. William Potter presided at the latter, an oration was delivered by Judge Mayer Sulzberger and the valedictory by Dr. de Schweinitz. In the evening the annual banquet of the Alumni Association was held at the Art Club.

The total number of new cases of contagious diseases occurring in Philadelphia during the week ending May 13th, was 271, reported as follows: diphtheria, 73 cases, with 14 deaths; scarlet fever, 45 cases, with 2 deaths; typhoid fever, 153 cases, with 22 deaths.

OUR LONDON LETTER.

[From Our Special Correspondent.]

PRACTICAL WORKING OF THE CONSCIENCE CLAUSE—PENSIONS OF ASYLUM PHYSICIANS—ADULTERATED SAUSAGES—HONOR TO DR. LEONARD WOOD—MELTING-POINT OF FATS—TUBERCULOSIS IN THE ROYAL DAIRY—SKULL OF SIR THOMAS BROWNE.

LONDON, May 6, 1899.

EVEN cowardice may give excellent counsel. The late Government surrender to popular clamor and anti-scientific prejudice, the renowned "conscience clause," is working unexpectedly well. Some time ago we called attention to its surprising results at Oldham and Burnley, the hot-beds of the "anti" movement, and now at the close of its first quarter's operation, the President of the Local Government Board is able to congratulate himself and party that the number of vaccinations under it has far exceeded that of the corresponding period for many years past.

The Liverpool School of Tropical Medicine has shown a distinct faculty for "arriving" already. Its opening exercises were held on April 22d, as announced, under the presidency of Lord Lister, before the distinguished audience of invited guests mentioned last week, almost every one of whom was present. The ward built for the school in the Royal Southern Hospital was dedicated in the afternoon, and a banquet held in the evening, with the public-spirited merchant prince, Mr. Alfred Jones, to whose generosity the scheme is indebted for the major portion of its sinews of war, in the chair.

The proposed amendments to the Lunacy Bill are exciting some uneasiness in the minds of medical officers of asylums, in respect to their pensions. The present provision is a fairly equitable one, a physician being entitled on retirement to a yearly pension of at least one-sixtieth of his pay and emoluments for each year of his service. That is, after twenty-years' service, a pension of one-third of his regular salary; after thirty years, one-half of his regular pay. The new proposal calmly ignores all this and provides that if the retiring officer shall have displayed "diligence satisfactory to the committee" this magnificent body may "grant such allowance as they think proper," thus making not merely the amount, but the very pension itself dependent upon the whim or favor of an autocratic board, an arrangement which few, who

have had any experience with the frequent ignorance, unreasonableness, and tender mercies of official bodies, will have any confidence in.

The *Lancet* still continues to expose the skeletons of our gastronomic family cupboards. It has just reached sausages, and we are, of course, prepared here for revelations which will cause our *arrectores pilarum* to contract, but the results are agreeably disappointing. No mention whatever is made of the classic claw or the traditional trousers-button, and the only adulterants referred to are the tame and comparatively unobjectionable horse-flesh, and bread tinted with ferric oxid. The interesting statement is made that horse-flesh is so rich in glycogen that its presence can be detected by the iodin test, even in as small proportions as five per cent. of the mass. The analysts find colored bread by far the most common adulterant, and as popular taste in England prefers a certain proportion of this substance in sausages, they recommend that a maximum bread-percentage should be established by law. And this is certainly needed, for some brands of sausages which one stumbles upon in the market here, are little more than well-flavored poultices.

A most sensible warning has just been issued by the Government of Natal, against the prevalent practice among English physicians of sending tuberculous patients in all stages of the disease out to South Africa, indiscriminately, often in almost destitute circumstances, apparently in the vague hope that the climate is a sort of specific, and will restore the strength so rapidly as to enable them to earn a living by out-door work. The report very properly points out that, as we have found out by bitter experience with this delusion in California and Colorado, consumptives in the third stage are really better off at home, that public hospitals are few and hard to get into, and that all the expenses of sickness are higher than in England, and the food and accommodations often most inadequate. Many a poor young fellow has been sent out to die in some rough, little frontier town, where it was impossible to secure proper accommodations, or even the ordinary comforts of civilized life.

A most ingenious method has just been devised for determining the different melting-points of fats, a test much used in detecting the presence of suets in butter. Two platinum wires coated with the fat to be tested are connected with the two poles of a battery. They are then plunged into a cup of mercury, the temperature of which is gradually raised by a Bunsen-burner. As soon as the melting-point of the fat is reached, the coating is, of course, dissolved from the wires and a circuit made between them through the mercury, the passage of the current ringing an electric bell. All that is necessary is to listen for the bell, and when it rings read off the thermometer which stands in the mercury.

The *British Medical Journal* pays a most unusual and gratifying compliment to the American profession and nation by publishing in its last number an excellent portrait of the medical hero of Santiago, General Leonard Wood, with a sketch of his life taken from the April number of the *Buffalo Medical Journal.*

Another honor conferred upon us last week was the election of Dr. Frederick S. Dennis of New York as a Fellow of the Royal College of Surgeons. The Honorary Fellowship of the College is one of the highest honors which can be won by an English-speaking surgeon, and is only granted by the Council at rare intervals.

The College of Surgeons has appointed as its delegates to the International Congress on Venereal Diseases Jonathan Hutchinson and Alfred Cooper.

The death was recently announced of Mr. Jabez Hogg, the well-known eye consultant and author of that most successful book, "The Microscope," which passed through no less than fifteen editions.

The slaughtering of the Queen's dairy-cattle for tuberculosis, mentioned by the Prince of Wales in his Marlborough House speech, which attracted such wide attention, has now been reported upon by Professor Macfadyean, the well-known veterinarian, by whose advice it was carried out. The herd was first tested by tuberculin, and so many of them reacted that it was decided to slaughter all of them, when no less than *thirty-six out of the forty* were found to be tuberculous. And as if this were not enough, four of the cows had a "septic" disease of the udder, and five were riddled as to their livers with echinococcus cysts. Professor Macfadyean says that the stabling, food, and care of the herd were simply ideal, but ninety per cent. of tuberculosis is something frightful, and well may "uneasy lie the head that wears a crown" if this is the sort of milk and butter which it has to subsist upon.

The proposed erection of a statue to Sir Thomas Browne, author of the famous "Religio Medici," in his native town of Norwich, has called attention to the fact that his skull now occupies a place of honor in the Norwich Hospital Museum, where the writer had an opportunity of examining it a short time ago. It is of a beautiful, well-balanced dolichocephalic type, now recognized by ethnologists as that of the highest races, rather low in the frontal, but very broad and full in the parietal and occipital regions. His grave was opened by accident, while repairing the foundations of the church in 1840, and his skull and coffin-plate, with rather irreverent enterprise, were secured by the museum. So well preserved were his remains that the hair was nearly perfect and of a bright red-brown color, closely corresponding to the descriptions given in his biographies. The gentle Sir Thomas, in spite of his shrewd and scientific turn of mind, evidently shared one of the pleasing delusions of his age, for the quaint Latin inscription on his coffin-plate states that the casket is filled with a powder "corporis Spagyrici"—whatever that may be—which will turn its leaden shell into gold, though what satisfaction he expected to get from such a post-mortem triumph puzzles one to imagine, unless he expected to wear it as a sort of "golden slipper" on Resurrection Day.

"Bulletin of the Cleveland General Hospital."—The first number of this new medical quarterly does credit to its editor, Dr. Charles J. Aldrich, and to the staff of the hospital. The make up is attractive; its original articles are all clinical memoranda from the hospital wards and are of a thoroughly practical character.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

TREATMENT OF PHTHISICAL PATIENTS WITH ANTITUBERCULOUS SERUM — PREVESICAL HERNIA — BILIARY CALCULI IN INFANTS—CURE OF CANCER BY OOPHORECTOMY AND THYROID EXTRACT—SKIN AFFECTIONS IN RENAL DISEASES—DEATH AFTER GAS AND OXYGEN FOLLOWED BY CHLOROFORM.

AT the Royal Medical and Chirurgical Society, March 28th, WILLIAMS and HORROCKS reported the failures which had followed the treatment of several tuberculous patients with antituberculous serum, obtained from a horse. The general condition of the patients, and the examination of their chests and sputa, showed that the disease progressed steadily, and in some instances rapidly. A second series of experiments was undertaken, with serum taken from the horse at a much longer period after inoculation (seventy-two days), and the doses employed were much smaller (from 1 c.cm. up), while all of the patients chosen had limited lesions. The results under these conditions were gratifying. All of the patients gained in weight and strength; the tubercle bacilli in their sputum decreased in all instances save one; while physical examination showed that the areas of consolidation and the cavities had ceased expanding, or had actually diminished in size. Various cocci which were present had disappeared. The experimentors were encouraged to proceed with this method of treatment.

At the session of April 11th, MAKINS read a paper on prevesical hernia, based on a personal experience. A man, aged forty, after exposure to a storm was seized with violent pain and vomiting. He was found to have a reducible right inguinal hernia. The symptoms persisted after the reduction, but subsided under rest in bed, light diet, and poultices. In three weeks the patient suffered a similar attack, which was relieved in the same way. Eight weeks after the first attack the abdomen was opened over a hard mass in the suprapubic region, which proved to be a peritoneal pouch containing adherent omentum, and one adherent loop of small intestine. The sac was removed, and the wound sutured. It had no connection apparently with the right inguinal hernia. The author mentioned four cases of preperitoneal hernia in which the internal sac projected into the vesical region, but these did not seem to him to be true prevesical cases.

HUTCHINSON related the case of an otherwise healthy man who had had for a long time a reducible inguinal hernia which gave him no trouble. He was seized with pain in the lower abdomen and vomiting. Examination showed a fulness to the inner side of the ring, and abdominal section was performed. Immediately to the right of the bladder there was a pouch in which was a strangulated loop of intestine. It is noteworthy that in all such recorded cases, an ordinary hernia pre-existed. The origin of such a hernia is obscure, but it is plain that if symptoms persist after the reduction of a hernia, one ought to open the abdomen and seek the cause of obstruction, just as he would if there was no visible hernia.

At the Pathological Society, April 4th, STILL reported three cases of biliary calculi in infants, aged nine, eight, and five months. There were no symptoms during life pointing to this condition, except that one child screamed frequently, and drew up its legs as if in abdominal pain. There was no jaundice. The calculi were very small, the largest measuring only one-eighth inch in diameter. They seemed to consist of pure pile pigment. No less than fourteen of twenty-three collected cases of calculi occurring in children were in infants less than ten months old. Biliary calculi must, therefore, be reckoned as one of the causes of persistent jaundice in the new-born, as well as one of the causes of colic in young infants.

At the Medical Society, April 10th, HERMAN showed a woman, aged forty-nine, whose right breast together with the pectoral fascia and axillary glands had been removed four years before for cancer. Recurrent nodules were excised the same year. Three years ago the cancer recurred and ulcerated, and continued in that condition. Nine months ago both ovaries were removed, and the patient was put on thyroid extract, 5 grains, three times a day. In eight months the ulcer had entirely healed, and a scirrhus nodule in the left breast, three inches across, and the enlarged left axillary glands had entirely disappeared. There remained some keloid-like nodules in the cicatrix of the ulcer. This is the second apparent cure of cancer by oophorectomy and thyroid extract which Herman has reported. He considered the combined treatment better than either part of it if carried out alone.

BOYD mentioned a case in which thyroid extract was given for twelve months, the tumor remaining stationary. The patient then disappeared from observation. Six months later she presented herself, the tumor in the meantime having wholly disappeared. Gould published a case in which nodules in the femur and elsewhere, recurrent after removal of cancer of the breast, had entirely disappeared without any treatment. It is to be noted that all of these cases were in patients at about the menopause.

At the Clinical Society, April 14th, WEST read a paper on skin affections in renal disease. Rashes associated with edema are for the most part erythematous in character, transitory in duration, produce few symptoms, and unless general, have but little clinical importance. Rashes without edema occur almost exclusively in the course of "granular kidney." They are generally widespead, and often universal, of great obstinacy, and of grave significance, taking the form of erythema, pityriasis rubra, dermatitis exfoliativa, general eczema, and lichen. They are rarely hemorrhagic. West remarked that the rashes occur only late in the disease, and when the signs of granular kidney are well-marked, though not infrequently overlooked. The association of a generalized skin eruption, with albuminuria, is of great importance, and if the cause of the albuminuria is granular kidney, it is of the gravest significance, for the patient will soon die —not of the skin affection but of the granular kidney.

At the Society of Anesthetists, March 17th, GRANVILLE spoke of the death of a boy, aged seventeen years, to whom gas and oxygen were administered for twenty minutes. The supply being exhausted chloroform was given with great care. After four or five minutes the

pulse became weakened, and the chloroform was at once withdrawn. The pulse quickly failed, but the breathing continued deep and regular for five minutes, and then the patient died in spite of every restorative effort. He thought that chloroform should not be given after gas and oxygen, the effect of which is undoubtedly to dilate the the heart.

SILK'S experience went to show that the after effects of gas and oxygen are more frequent and varied than those which follow gas alone. They may persist after the individual has regained consciousness. The mixture was not one to advise for indiscriminate use.

CROUCH said that he had experimentally proved that gas and air, or gas and oxygen, dilate the heart.

BUXTON said that the mixture had been praised as a panacea by some who were unaware of its limitations.

SOCIETY PROCEEDINGS.

AMERICAN CLIMATOLOGICAL ASSOCIATION.

Sixteenth Annual Meeting, Held at the New York Academy of Medicine, May 9, 10, and 11, 1899.

FIRST DAY—MAY 9TH.

MORNING SESSION.

THE opening address by the President, DR. BEVERLY ROBINSON of New York, had for its subject

THE IDEAL PHYSICIAN—HIS CHARACTER AND ATTAINMENTS.

He said in part: Nowhere could this subject be more suitably spoken of than here in the New York Academy of Medicine, the walls of which are adorned with portraits of ideal physicians whose lofty character and superior attainments made them the leaders of men and of medicine in their day and generation. Unfortunately, as time goes on and the spirit of commercialism spreads, there is noticeable a degeneration from the high ideals of other days and money-getting becomes the great desideratum of certain professional men instead of that honorable position in public esteem with a modest competence and thorough feeling of self-respecting consciousness of duty fulfilled that was the aim of other days. The invasion of specialism has had much to do with this for the general practitioner was and is ever cast in a different mold and has other purposes. Only the few, very few, have been affected by this sordid spirit as yet, but it must be decried and if possible gotten rid of.

Physicians must cultivate a high personal ideal that shall affect their every action in life. While assuming none of the priestly character they must ever be found in the forefront of the battle for high public ethical standards. They must be leaders in reform, not alone in sanitary and hygienic matters, but in everything that concerns the public good, in politics, in public morals, in education. With the highest reverence for Nature's laws they must countenance no indecency and no crime perversive of natural order. Their education must include the heart as well as the mind.

As to their scientific attainments they must, of course, be of the highest possible order. Yet it must never be forgotten that the practice of medicine is an art, not a science, and due weight must be given to the results of their own experience. While keeping thoroughly abreast of modern advances in science the physician must not allow his practical judgment to be overruled by supposed scientific discoveries. In our own time, in the midst of the germ theory of disease, for instance, he must remember that great conservative medical authorities still hold out for the special liability of the organism to disease as the true cause of disease rather than specific germs.

The general practitioner, especially while not permitting the great special advances in medical science to escape him must be able to direct the specialists' work, not merely referring patients to the specialist because their treatment is not of his own range, but carefully providing that at no time a narrow view is taken of the patient's ailments. There will always remain for the family practitioner in the midst of the invasion of specialism an important rôle in this guidance of the work of the specialist, a rôle that will be of the greatest benefit to the patient himself and to the progress of practical medicine. While the high character and wide attainments this rôle demands may seem ideal, it is striving after this ideal that will keep the profession on the lofty plane it should occupy if it will be true to itself and its own great inherent purposes.

The first paper of the meeting, entitled

TREATMENT OF CONSUMPTION BY AIR AND LIGHT IN COLORADO,

was read by DR. CHARLES FOX GARDINER of Colorado Springs. He considers that air is the first requisite in the treatment of pulmonary tuberculosis. There are those who put nutrition in the first place, but herds of cattle well housed and well fed are often known to develop tuberculosis while the disease is rare among the ill-fed, neglected cattle wandering on the plains. The conditions requisite are mainly a dry thin air that encourages increased expansion of the lungs, for which altitude is an efficient factor, and that it shall be pure and free from dust. An important element in the cure of tuberculosis is light. For that the climate of Colorado is especially favorable since there is fifty per cent. more sunlight than at any city in the East. This has been experimentally demonstrated by photographic exposures. The collection of the experience of patients, even during the unfavorable weather of this last winter shows that there are very few days on which they cannot be out of doors between 10 A.M. and 4 P.M.

Ranch life in Colorado would seem to be ideal for tuberculous patients, but there are opportunities for exposure and overexertion, and the diet is often hard of digestion, so that ranching is only suitable for strong patients. Tent-life for young adults gives excellent results. The tent should have an opening at the top and should be raised a few inches above the tent-floor (there should always be a floor) so that a constant circulation of air is secured. Tents without such precautions can be, as any one who has lived in them knows, extremely stuffy

and unbearable. Such a tent may be habitable even in severe weather, and Dr. Gardiner has lived in one in a blizzard. Light and air are the important factors in all treatment of tuberculosis.

DR. PHILLIPS of Washington, D. C., said that he was glad that Dr. Gardiner called attention to the importance of light in the treatment of tuberculosis. To his mind this plays even a greater rôle than altitude in the success of Colorado for the disease. The rarefied air of altitudes requires more exertion of the lungs while a damaged organ usually gets better by rest. The subject of the influence of light deserves careful investigation.

In answer to a question Dr. Gardiner said that patients could get at least five and one-half hours of piazza life every day between 10 A.M. and 4 P.M., but it was not always easy to secure control over them to make them take this much out-door life.

DR. W. D. ROBINSON of Philadelphia said that any climate brought improvement for tuberculosis if the air was reasonably good and patients took proper care of themselves. In the early days when Chicago was a frontier town consumptives were sent there as to a health resort and were benefited.

DR. N. S. DAVIS, JR., of Chicago said that while he would not wish to underestimate the value of climate, still in the treatment of tuberculosis, nutrition was the other important element in treatment, and the two things must go hand in hand to bring success.

DR. SHERMAN G. BONNEY of Denver, Col., read a paper, entitled

SUGGESTIONS CONCERNING EARLY DIAGNOSIS IN PULMONARY TUBERCULOSIS.

Dr. Bonney said that it was clear that thousands of lives were sacrificed every year because of late diagnosis of tuberculous invasion. The earlier the diagnosis the better chance for cure, and it was in early cases that cures were lasting. In Colorado the doctor sees advanced rather than incipient cases. It would seem well to review the means of early diagnosis. The bacillus will sometimes not be found in the sputum until there is destruction of tissue, and at times even secondary infection. After physical signs are marked sometimes the bacillus cannot be demonstrated. The Röntgen-rays would form a valuable aid to early diagnosis, but they are of course out of the question for the general practitioner to whom most cases of tuberculosis come for treatment. The hope that a pretubercular stage could be recognized from the blood has proved illusory so that the old physical signs retain practically all their significance. The lesson they teach is not, however, realized soon enough or not acted on.

Solly has shown that two years pass after infection before patients go to Colorado. In my own experience it has been almost as long. There was in my cases an average loss of nineteen pounds, and a good proportion of cases with distinct phthisical heredity, or who developed their symptoms subsequent to influenza. These circumstances were of enough significance to have suggested very careful examination at least. A number of patients had had hemorrhages so that delay in diagnosis seems inexcusable. No one physical sign is pathognomonic, but certain groupings of signs are very significant, and a history of such incidents in the patient's life as idiopathic pleurisy, even slight pulmonary hemorrhage, slow recovery from pneumonia, persistent cough, even though without expectoration, should arouse grave suspicion. The absence of febrile movements is not convincing as to the non-existence of phthisis; their presence is almost pathognomonic.

As a rule, full examination seem not to be made until a provisional diagnosis of tuberculosis has been reached. Even then the bases of the lungs and the interscapular spaces are not given the attention they deserve. Even variations of the respiratory murmur, when connected with other suspicious signs in the absence of adventitious sounds are significant. The doctor should realize that on early diagnosis probably depends the life of the patient, certainly his physical welfare for years.

DR. E. O. OTIS of Boston read a paper, entitled

NOTES ON THE TUBERCULIN TEST.

He considers that there is an unreasonable prejudice against the use of tuberculin for diagnostic purposes because of the bad results that followed its use in the early days. In small doses—5 to 10 milligrams, never over 20—he thinks it without danger. It is an excellent diagnostic measure, and much more generally applicable than the Röntgen-rays. It is simple, and gives definite results. He has used it now in 111 cervical adenitis cases. Practically all of them were in dispensary service, ambulatory cases, and he is convinced that even under these conditions it is a useful agent, and to be relied on.

He has used both Koch's and the Adirondack tuberculin, but prefers to use one for the sake of uniformity. Usually 5 to 10 milligrams have been sufficient, and he never goes above 20. Different tuberculins are of different strengths, and this has led to some difference of opinion as to the dosage. As a rule the results obtained have been absolutely reliable. Certain syphilitic cases gave a reaction in the absence of tuberculosis, and advanced cases gave a local rather than a general reaction, and in general the constitutional reaction from these small injections is in inverse ration to the extent of the tuberculous process present. Bearing these guiding principles in mind, the significance of the reaction can be depended on. The fact that a reaction occurs in syphilis is not a great source of error in this country as syphilis is not very common, and the history of it can be elicited.

DR. VINCENT BOWDITCH of Boston read a paper, entitled

SUBSEQUENT HISTORIES OF ARRESTED CASES OF PHTHISIS TREATED AT THE SHARON SANATORIUM (NEAR BOSTON, MASS.).

The sanatorium has none of the climatic advantages usually considered so helpful in the treatment of tuberculosis. It is not on high ground. It is near a large city and near the sea, and in a climate not much different from that of Boston itself. It is on good, dry, gravelly soil. The success of treatment at it shows that an in-

stitution near home on dry soil, protected from inclement weather by woods and hills, may give excellent results. Of 36 patients discharged as arrested cases, 6 have since died, usually from other causes than tuberculosis, 24 are pursuing their ordinary avocations; of the remainder some have not been heard from; some have had relapses. All of the patients had lost weight or had other signs, but in only 12 were bacilli discovered. Altogether the results speak highly for sanatorium treatment of tuberculosis, so that it is interesting to note that Massachusetts has established a State sanatorium, the first State to do so, and New York is about to follow suit.

As a rule, an effort was made when the patient was discharged not to have him or her go back to the conditions under which the phthisis originally developed. Dr. Bowditch does not believe much in drugs, but in careful nutrition, judicious exercise, and air.

DR. STUBBERT said that bacilli could at certain times not be found in the sputum of tuberculous patients, so that with other physical signs Dr. Bowditch was perfectly justified in treating the cases as consumptives. Dr. Stubbert thinks that the treatment of complications and the relief of symptoms constitutes an important auxiliary element in the treatment of consumption.

DR. F. H. WILLIAMS has seen tuberculous patients improve a great deal even after admission to the wards of a general hospital because of the regular quiet life and the better nutrition.

DR. BOWDITCH considers this improvement only temporary, and that it occurs especially in cases in which the nutrition was poor before.

DR. FRANCIS H. WILLIAMS of Boston read a paper, entitled

ROENTGEN-RAY EXAMINATIONS IN INCIPIENT PULMONARY TUBERCULOSIS.

After 165 examinations made with the X-rays and the thoracic screen Dr. Williams saw their value for diagnostic purposes. The shading of the apices and the lessened excursion of the diaphragm are only rivalled by the discovery of the bacilli in the sputum or the tuberculin test. The patients examined can be divided into two groups, first, those who had physical signs but no râles, and second, those who had no physical signs. In the first group Dr. Williams has reported three cases before; he now has seven more. In the second group examinations of the thorax were made usually for heart trouble and the shading at the apices being found the tuberculin test was used to confirm the diagnosis.

In two rheumatic cases absolutely without physical signs the apical shading was distinct and the tuberculin test proved positive. Dr. Williams has often been struck by the frequent association of tuberculosis and rheumatism. Experiment, post-mortem, has shown that consolidated lung is ten times more resistant to the passage of the X-rays than normal lung. Hence nodules of consolidation in the midst of healthy tissue may be discovered and even an increased congestion of the organ produces its effect upon the thoracic screen.

The X-rays alone will not make the diagnosis, but taken with the physical signs they assure. On the other hand, where suspicious physical signs without râles are present they may clear up the case and make the prognosis better.

In emphysema they are especially useful, for while the pathologically inflated lung tissue offers an almost insuperable objection to getting the physical signs of a tuberculous process in such lungs it makes no difference to the X-rays how much air or air-containing tissue there may be. The diagnosis once made may be confirmed by finding the bacilli or by the tuberculin test.

The thoracic screen is very much superior to the X-ray photographs for these cases. Dr. Williams exhibited X-ray photographs showing how certain shady areas had been missed in some cases, and showing how different appearances were according to the printing of the photographs.

DR. STUBBERT said he had watched the development of the use of the X-rays for diagnosis in tuberculosis with a great deal of interest. It had now become a valuable diagnostic aid. In his experience the thoracic screen was far ahead of the X-ray photographs in the amount and definiteness of the information they conveyed.

AFTERNOON SESSION.

The first paper was read by DR. B. P. ANDERSON of Colorado Springs, and was entitled

INTERMEDIATE ALTITUDE FOR THE CONSUMPTIVE.

The fact that high altitudes are of benefit to consumptives has turned the Colorado desert into a crowded paradise. But not all consumptives do equally well at high altitudes and some are not able to stand at all the rarefied air of Colorado. There is a feeling of discomfort that develops almost at once and that does not wear off with time. It disturbs rest and nutrition and finally makes it clear that this elevation is unsuitable for the patients. For such cases an intermediate altitude often does good. They feel better at once at an elevation of 3500 to 3800 feet, and improvement continues.

During the winter months they may be sent to places of about this altitude in New Mexico. New Mexico is, however, too hot in the summer-time. Often after a few months' sojourn in an intermediate altitude these patients may return to Colorado without experiencing the former discomfort and continue their residence there with continued improvemen'.

In discussion DR. LEONARD WEBER of New York City said that in hemorrhagic cases especially there is danger in sending patients to a high altitude. In advanced disease with the normal respiratory power already decreased by the extensively diseased lungs, the call for over-exertion on the part of already crippled organs was liable to cause serious harm. As a matter of fact, it was not the altitude that was the important therapeutic element, but the pure, dry air and that may be obtained without the ascent.

DR. SOLLY of Colorado Springs said that all cases with continuously high pulse or continuous fever, many hemorrhagic and advanced cases, and all those that can not take regular exercise do not stand high altitudes well; some cannot bear them at all. All the physicians in Col-

orado recognize that such cases do better in certain parts of Arizona and New Mexico. The Las Cruces Valley and certain places near Tucson, Arizona, seem especially favorable as far as regards meteorological conditions. The accommodations for patients are very poor, however, long stage rides have to be taken, the food is often coarse and unsuitable, the life indoors not agreeable. The Climatological Association would accomplish a great, good, work, if, by calling attention to the needs in this direction they could get the proper people to provide the accommodations.

DR. NEWTON of Trenton, N. J., said that this question of food is important, for nutrition is the key-note of the struggle with tuberculosis. So long as people digest well there is hope, but people with poor digestion do not get well.

DR. CHARLES F. MCGAHAN of Aiken, S. C., read a paper, entitled

WHY FUMIGATION OF APARTMENTS OCCUPIED BY TUBERCULOUS PATIENTS AT HEALTH RESORTS SHOULD BE UNDER MUNICIPAL CONTROL.

There is real danger for patients at health resorts unless the most careful disinfection is enforced. It may be that a patient with incipient tuberculosis will succeed to the room of an advanced case of tuberculosis, the walls, floor, and furniture of which are perhaps reeking with tubercle bacilli. It is important in such a case that the medical attendant shall be assured that the room and everything in it has been thoroughly disinfected. Owners often do not believe in the contagiousness of tuberculosis, and so are careless in cleansing or they do not know how to disinfect properly and make it scarcely more than a perfunctory cleaning. Every room in houses devoted to the receiving of tuberculous patients should be examined by some local Board of Health, and certificates granted only for those known to be in good condition. Besides this, the ordinances as to spitting in cars and on sidewalks, etc., should be rigidly enforced in these towns, and the washing regulated so that handkerchiefs and other clothing shall not be washed together. Patients should be required to use pieces of cheese-cloth to expectorate into, which should be burned afterward, not sent to the laundry.

DR. E. O. OTIS of Boston considered Dr. McGahan's suggestions as very practical and important. The method of certification so as to secure the object intended, effective disinfection and not perfunctory work, will require careful consideration. At Cannes where there seems to be a good system in operation when a patient who has been under the care of a physician either dies or leaves a room the physician sends a card to the proprietor of the house who must send it to the Bureau of Hygiene. The bureau, after having disinfected the room or apartment, returns the card stamped to that effect to the physician. All hotels and houses that wish to keep lodgers are registered with the mayor, and as the records of disinfection are kept a physician may easily learn the condition of any of them.

DR. GARDINER of Colorado Springs thought that the danger of infection is less at an altitude. Though in years gone by disinfection was imperfect in some of the older hotels no bad results seemed to follow either for patients or their attendants. He collected last year dust from one of the oldest of the Colorado Springs Hotels, since burned down. Yet when injected into susceptible animals it did not produce tuberculosis. Infection in human beings does not seem to follow so much from dust inhalation as from recrudescence of old tuberculous processes. Fifty per cent. of people have tuberculous foci somewhere in them which light up when they run down in health, or when placed in unfavorable hygienic circumstances that lower their resistive vitality.

DR. HINSDALE said that the American Climatological Association should draw up a set of regulations setting forth how rooms that have been occupied by tuberculous patients at health resorts should be disinfected. This would supply a standard by which those interested in keeping lodgers should direct their efforts at disinfection. When left entirely to themselves their work is necessarily more or less perfunctory.

DR. MCGAHAN, in closing the discussion, said that the methods at present employed are often worse than perfunctory. Very little that is really effectively disinfecting is done, yet from the fact that something has been done a false sense of security is developed. Perhaps after a careless sealing or no sealing at all of doors and windows a sulphur candle is burned in a room, the doors and windows are left open till the sulphur fumes escape, then the furniture, the woodwork of which has been brushed off with an antiseptic solution, while the upholstered parts have been perhaps left severely alone, is returned to the room and it is considered to have been disinfected. Some reliable system of disinfection, the employment of which should be enforced by rigorous inspection on the part of some constituted authority should be adopted. Only this will keep ignorant landlords, or those to whom money is the all important consideration, from neglecting their duty toward their guests in this matter.

DR. J. B. WALKER of Philadelphia read a paper, entitled

SOME REMARKS ON CLIMATE IN RELATION TO RENAL DISEASE.

which will appear in a subsequent issue of the MEDICAL NEWS.

DR. THOMAS D. COLEMAN of Augusta, Ga., agreed with Dr. Walker as to the influence of climatic conditions, and especially temperature and humidity, upon renal disease, for kidney trouble is rare at the South and occurs certainly much more infrequently than at the North.

DR. JUDSON DALAND of Philadelphia thought that the influence of climate may be exaggerated and that the difference in diet, in temperatute, and warm countries, just as between winter and summer, must have a great deal of influence. Especially does the greater quantity of water consumed in hot weather and in warm climates serve to flush out the kidneys and relieve them of the irritation of excreting concentrated toxic materials.

DR. W. F. R. PHILLIPS of the Weather Bureau at Washington, D. C., said that in steadily warm or cold climates the diurnal range of temperature is not great and

patients can clothe themselves more suitably and so are not subject to the effects of sudden changes of temperature. It is these sudden changes of temperature, often interfering with the function of the skin, that especially act unfavorably on the kidneys and are the etiological factors of more frequent renal disease in temperate climates.

DR. SAMUEL A. FISK of Denver, Col., said that at the stockyards in Chicago Western steers could be recognized by the perfect kidneys they usually possessed. The climatic conditions in the West were good, not alone for the lungs, a fact that was well known, but for the kidneys too, and account should be taken of this in recommending a climate to patients. Very seldom did the physician see acute Bright's disease in the West.

DR. L. D. BULKLEY of New York City said that his personal experience with renal trouble was of interest. When young he had found albuminuria and resolved to live in a mild equable climate. He had begun to pack his trunk for Brazil, when circumstances had detained him, and he has been enabled by judicious care of himself to remain here in comparative health. He had succeeded especially in limiting the amount of albuminoid material he would have to take in other forms by drinking milk on an empty stomach in large quantities, when he believes it is directly absorbed and does not lead to the production of irritative excrementitious substances. He has had several acute exacerbations of his kidney trouble, the severest some years ago, while in the Yellowstone Park, and certainly not from exposure to dampness there.

DR. N. S. DAVIS, JR., of Chicago said that he had recently seen the statistics of deaths in various parts of the country from renal disease in some insurance statistics that he was looking up for another purpose. As they threw light on the question of the geographical distribution of renal disease he would quote from them. According to those statistics the fewest deaths from renal disease among the insured occurred in the Northern States of the Mississippi Valley, the most on the Pacific Coast, and after them in the Eastern States. The South was not especially favored in the absence of kidney troubles according to this.

The next paper, by DR. L. B. BULKLEY of New York, was entitled

CLIMATE AS IT AFFECTS THE SKIN AND ITS DISEASES.

By climate is to be understood not alone meteorological conditions, but in general the manner of life under these conditions. A good deal of the influence upon the organism usually attributed to climate is effected through the skin, though this fact has not been paid sufficient attention to hitherto, and the present paper is probably the first, for there seem to be no others on the subject in the literature in which the effect of climate upon the skin has been carefully studied.

Climatic influence on the skin may be judged first from the production of disease of the skin. Leprosy seems to require certain climatic conditions for its existence that are not fully understood. It is not especially favored by cold or heat nor by dampness or dryness. It does spread in Hawaii and in Iceland. It failed to spread in the United States, though introduced into Minnesota. Not a single case of acquired leprosy has occurred in New York, though lepers have been almost constantly in the city.

In syphilis temperature has an influence on the lesions that occur. In hot countries especially, the skin is affected and deep ulcerations occur. In cold countries lesions of the bones and internal organs especially are noted.

Eczema is much more common in our changeable climate than in warm or cold but more equable countries. It is aggravated in cold, damp weather. It is often better at high altitudes or when patients go South. It is usually aggravated by the damp air near the Great Lakes.

Psoriasis is not near so common in the tropics. Acne is usually worse at the seashore, and boils occur more frequently. Parasite diseases of the skin are worse near the sea coast than in the interior. It is evident that this question of the influence of climate on skin diseases is an important one that deserves careful study.

DR. L. D. JUDD of Philadelphia read a paper, entitled

THE HYGIENICS OF THE SKIN.

Dr. Judd considers the skin the most abused organ in the human economy except perhaps the stomach. It is subject to abuse from unseasonable bathing, the use of improper, irritating soap, rubbing with rough, harsh brushes or towels, and by the constant irritation of improper underclothing. Besides, the same people consider it necessary to subject it to a sort of periodical purging by the frequent use of Russian or Turkish baths. He would plead for a warm bath in the morning followed by a cold douche and gentle rubbing with a soft towel.

As to the kind of underclothing the question is most important. The use and prejudice in favor of woolens has become almost a fetish worship. Dr. Judd himself, after several years of personal experience, and noting the results in his own family and practice considers linen-mesh underclothing the only proper kind. It should not be fine but closely woven and should be worn all the year around. Woolen underclothing, despite the prejudice in its favor predisposes to colds. Linen protects from colds, and Dr. Judd himself and his family and patients have been less troubled with recurring colds since they took to wearing linen-mesh next the skin.

DR. BULKLEY said that his personal experience had been exactly the opposite to that of Dr. Judd. After trying the linen-mesh he had given it up and he now used the same weight of woolens summer and winter. They seemed to keep the heat out in summer as well as they kept it in in winter and he does not feel more uncomfortable than people around him in the warm weather. He believes that many people bathe too much. Years ago Hebra at Vienna called attention to the fact that certain skin diseases were aggravated by bathing and that in places around Vienna where bathing was more common, skin diseases were more frequent. In general the profession had laughed at Hebra, considering his opinion the expression of a man with whom his bath was

not a favorite, but gradually we have come around to think there is more in it than we used to think. Dr. Bulkley is not so much of an advocate of bathing as he used to be and is accustomed to tell patients jokingly that animals in water have scales and that those who are much in water may develop scales. Certainly injudicious, too frequent bathing causes congestion of the liver and other internal organs and causes other alterations of circulation not compensated for by its stimulant or sedative effects.

DR. IRWIN H. HANCE of Lakewood, N. J., read a paper, entitled

HYDROTHERAPHY IN THE TREATMENT OF INSOMNIA.

He has had excellent results in the treatment of very obstinate cases of insomnia with a combination of warm bathing and static electrization. The improved cutaneous circulation after the baths led to better general circulation and toned up the nervous system. Of course where local causes exist they will have to be combated by drugs, and the diet and exercise will have to be carefully regulated. There should be gentle exercise every day but never to over-exertion. Static electricity, the patient being positively electrized and the other pole grounded seems to add in Dr. Hance's experience to the alterative effect of the hydrotherapeutic measures and aids in establishing that nervous balance on which refreshing sleep in normal amount depends.

SECOND DAY—MAY 10TH.

DR. W. D. ROBINSON of Philadelphia read a paper, entitled

THE CLIMATOLOGY OF NUDITY.

After discussing the modern theories of light, and especially the ethereal wave theory, and the fact that light, heat, and electricity are only differing modifications of waves in the ether, Dr. Robinson suggested the possibilities there are for chemical action and reaction when light is permitted to impinge unhindered upon the skin. Probably many effects now attributed to other causes are really due to the action of light in this way. For instance, it is worth while recalling that the lesions of the ordinary contagious diseases are on the skin, and this may represent the result of Nature's effort to get the virus of the disease to the surface where it would be acted upon by light. We know very little of the therapeutics of light, but it is not impossible that such qualities as the well-known fluorescent power of quinin in solution may be found to be closely connected with its therapeutic power.

DR. S. E. SOLLY of Colorado Springs read a paper, entitled

RECENT INQUIRIES CONCERNING THE BLOOD CHANGES INDUCED BY ALTITUDE.

All who discuss the subject admit that there is a real or apparent increase in the number of red blood-cells within a day after ascension to an altitude. This is followed by a gradual increase in hemoglobin and specific gravity of the blood. There is a corresponding decrease on coming down to ordinary altitudes but this is followed by another increase that persists. The most recent work on the subject has been a series of experimental observations upon animals in bell-jars. The blood was counted with a Thoma-Zeiss instrument, hemoglobin estimated with Fleischl's apparatus, and in certain cases the blood for examinations was taken from the aorta and liver. As the relative humidity was high and the temperature in the bell jars was normal there could be no question of inspissation of the blood.

These observers found from twenty to fifty per cent. increase in the number of red cells as the pressure increased. They continued their observations of the animals used in the experiments for ten months after. They found a decrease in the number shortly after the animals were removed from under pressure, but reaction set in, the number again increased and persisted as long as the animals were kept under observation. This is confirmed by certain clinical experiences with anemic school children who were sent to the mountains and had a persistent increase of their red cells even after their return.

The Finnish observers also noted an increase in the average size of the red cells because of decrease of microcytes, and this decreased after a return of the animals to normal conditions. The nucleated red corpuscles were slightly increased in number, showing that there was an effort at blood making. A number of mitotic figures were seen also indicating the same thing. The number of red cells was the same in blood taken from the periphery, and from the aorta and liver, in two animals, so that it would not seem to be any special distribution of blood with more red cells at the periphery than usual. When the number of corpuscles returned to the normal many shadow corpuscles were seen, which would seem to indicate an increased destruction of red cells.

There would seem to be good grounds for believing then that the increase of red cells on ascending to an altitude is really not apparent. Our clinical observations in Colorado seem to confirm this, but as yet they are too few in number to materially contribute to the elucidation of the question. There are so many possible sources of error that the work must be done with extreme care. Great help would be afforded if physicians would carefully examine the blood of patients before they go to the higher altitude of Colorado. The subject is so important that the Climatological Association would be doing a good work if it appointed a special committee for the investigation of the question.

A paper on

ALTITUDE AND HEART DISEASE, WITH REPORT OF CASES

was read by DR. R. H. BABCOCK of Chicago. A synopsis of it is as follows: Report of nine cases of heart disease; a brief statement of the effect of altitude on blood-pressure; mountain sickness, according to Regnard, due to anoxyhæmia; as regards heart disease, the effect of altitude explicable through acceleration of blood-flow; application of this simple theory to the nine cases reported; conclusions.

It will appear in a subsequent issue of the MEDICAL NEWS.

DR. ABRAHAM JACOBI of New York City read a paper, entitled

FUNCTIONAL CARDIAC MURMURS.

He said in brief that after watching the subject carefully in children in whom the problem has less disturbing elements than at adult age he is convinced that real functional heart murmurs, that is, murmurs due to faulty action of the valvular or muscular mechanism of the heart but without pathological change in the organ are much rarer than used to be thought. Changes in the myocardium of the heart are only now being given their proper value and with that is coming the realization that they may sometimes be the cause of murmurs.

In children we often do not know a cause for a heart lesion. A preceding rheumatic attack makes it very clear in an adult. Rheumatism is often missed in children, however, and we do not care to pronounce on the existence of a heart lesion. At the time when the child's heart is developing, however, the cavities are growing larger yet the muscle does not grow thicker. During this period murmurs are not rare and they would seem to be due to myocardial insufficiency at times which shows that this may give a murmur really due to an organic, not functional, defect.

DR. N. S. DAVIS, JR., of Chicago read a paper, entitled

PROGNOSIS IN CHRONIC VALVULAR AFFECTIONS OF THE HEART,

which will appear in a subsequent issue of the MEDICAL NEWS.

DR. H. L. ELSNER of Syracuse read a paper on the

TREATMENT OF THE CARDIAC ASTHENIA OF PNEUMONIA.

As the toxins of pneumonia depress the heart from the beginning no cardiac depressants should ever be used. Needless to say, none of the coal-tar antipyretics should be employed. Nitroglycerin is contraindicated because this paralyzes the peripheral vasomotors and the toxemia of the disease is already accomplishing this purpose. In selected cases when the heart is laboring over-much, venesection should rather be done. Nothing could well be more ill-advised than the so-called bleeding of a patient into his own veins. The young men who are taught in pretty figurative language to use the concealed lancet of veratrum viride do great harm. Dr. Elsner has never seen a patient recover when this system of medication has been employed.

The next paper, read by DR. ROLAND G. CURTIN of Philadelphia, was entitled

ESOPHAGEAL GUSH AND CLICK AS A CAUSE OF A SIMULATED HEART MURMUR.

DR. JOHN C. MUNRO of Boston followed with a paper, entitled

EMPYEMA FROM A SURGICAL STANDPOINT.

Both of these papers will appear in subsequent issues of the MEDICAL NEWS.

DR. RICHARD C. NEWTON of Philadelphia read a paper on

TRAUMATIC RUPTURE OF THE HEART WALL WITHOUT PENETRATION OF THE CHEST WALL. WITH A CASE.

The case was one of rupture of the walls of the right ventricle in a young and vigorous young man, brought about by a bicycle accident. The handle-bar seems to have been driven forcibly against the chest, causing fracture of the sixth left costal cartilage. This produced the heart rupture which started from without, but there was no rupture of the pericardium. Post-mortem the heart was found perfectly healthy. In practically all the cases reported some pathological condition of the substance of the heart was found. Up to 1870 Gamgee collected reports of twenty-eight of such cases, and to these Newton now adds sixteen new ones. The patient reacted well to stimulants, and there is no doubt that could a diagnosis of the real condition have been made surgical intervention might have saved life, but collapse supervened and he died.

The next paper on the program was by DR. A. C. GRETCHELL of Worcester, Mass., and was entitled

BICYCLING IN RELATION TO HEART DISEASE.

It will appear in a subsequent issue of the MEDICAL NEWS.

DR. HOWARD S. ANDERS of Philadelphia read a paper on

THE RELATION OF LOCAL METEOROLOGICAL CONDITIONS TO THE INFLUENZA EPIDEMIC IN PHILADELPHIA IN THE WINTER OF 1898–99.

On *a priori* grounds there is no encouragement to take up the study since there is an almost universal impression now that weather influences have no effect on the spread of grip, or of other contagious diseases. It is interesting to note, however, that during the recent months, when influenza was spreading so rapidly in Philadelphia, the temperature was higher than during preceding years, and the barometer higher also. The mean daily range from which the mean daily variability can be deduced was also high. The month of January, 1899, in which grip was so prevalent, was especially notable for its inequableness.

DR. GUY HINSDALE of Philadelphia read a paper on

THE COLD WAVE OF FEBRUARY, 1899,

in which he described the meteorological conditions which preceded and accompanied this, one of the most striking weather disturbances ever known.

DR. HAROLD WILLIAMS of Boston read a paper, entitled

THE EFFECT OF PROLONGED AND VIOLENT MUSCULAR EXERTION UPON THE HEART.

Dr. Williams had the opportunity to examine a number of athletes shortly after they had completed a Marathon or cross-country race, up hill and down dale, for twenty-five miles. Most of them were extremely exhausted, some were very cyanotic, some ashen-colored, and some of them had to be carried to the examining-room. All of them had notably lost weight, one of them as much as six pounds.

On inspections in nine of the cases there was found

bulging left costal cartilages on percussion very carefully done by a number of physicians, and controlled by tracings and copies which each succeeding examiner did not see; there was found to be dilatation of the left ventricle. Contrary to the general impression there was lowered arterial tension. After a run of five miles the trained athlete is exhilarated and then arterial tension is high, but after twenty-five miles there is exhaustion and a fall in tension.

The temperature was found lowered in every case, in all a degree, in three cases two degrees, in one four degrees. This is contrary to what is usually stated in text-books on physiology, which state that the temperature is higher after exercise on the theoretic principle that muscular work means increased heat production and consequently higher temperature. In all of the runners albuminuria occurred, in some associated with casts so that either casts have not the significance attributed to them of a lesion of the kidney, or such lesions occur as the result of severe physical exertion.

In eleven out of thirteen of the athletes there was a murmur to be heard in the second intercostal space the same in quality and pitch in all the cases though varying in intensity. In six of the cases this was transmitted to the apex and beyond it, and could be heard in the axillary region. In a word, it had all the qualities of a mitral regurgitant murmur. In the other five cases the murmur was not transmitted. It was concluded that this was a real mitral regurgitant murmur due to the fact that the papillary muscles and the myocardium were exhausted as well as the systemic muscles and so did not act coordinately. In answer to a question as to the duration of these murmurs, Dr. Williams said that some of them had disappeared after twenty-four hours, others after forty-eight hours. As to the effect on the athletes, many of them he knew engaged in other such races within a few weeks. One of them, despite a severe fall had made an excellent record in a race only a week later.

Dr. Thomas Darlington, Jr., of New York City read a paper on

A CASE OF ANEURISM WITH EROSION OF THE STERNUM, RUPTURE TWICE AND DEATH.

The patient gave a syphilitic history and had been wounded by a shoemakers' knife when young through the sternum. The etiology of the aneurism may thus have been syphilitic or it may have been traumatic.

The aneurism grew to be of enormous size, eroding the sternum in its whole width and making the tissues in front of it thinner and thinner. At two points especially the skin became adherent, reddened and eroded to dangerous thinness. Finally during a fit of coughing it ruptured. About a pint of blood was squirted out of it almost to the ceiling. Then the hemorrhage was stopped by the engagement in the opening of a clot that had been contained in the aneurism. A photograph exhibiting the condition was shown. A dressing with plenty of cotton was put over the opening. Three days later it ruptured a second time, this time at the other thinned spot and with an immediately fatal result. No autopsy was permitted.

REVIEWS.

Transactions of the American Orthopedic Association. Vol. XI., 1898.

This official volume of the association is more voluminous than any heretofore published, and by virtue of its numerous excellent articles bears testimony to the fact that the same spirit which was so largely responsible in securing for American orthopedists the foremost position is still very active.

Keenly aware of the trend of the times the president in his address sounds the key-note of warning that the pathological and bacteriological laboratory with its staff of workers are now as much a *sine qua non* for maintaining the supremacy as the machine-shop and its mechanics had long been conceded to be. The subject most frequently presented is the forcible correction of the deformities following Pott's disease. To give just consideration to the vast fund of information conveyed by the forty-five articles contributed, the space alloted to the reviewer does not permit. In lieu of this we can best say that this volume is little short of an excellent text-book on orthopedics.

Railway Surgery. By Clinton B. Herrick, M.D., Lecturer on Clinical Surgery, Albany Medical College; Surgeon to the Delaware and Hudson and the Fitchburg Railways, etc. New York: William Wood & Co., 1899.

To satisfy the call for a work pertaining to railway injuries the author has submitted the conclusions of his extensive experience in this brochure. We believe it to be the pioneer work of its kind, though collected writings of the Association of Railway Surgeons are extant.

The *raison d'être* for this treatise the author sees in the extraordinary forces which produce this class of injuries, but which, for our part, differ in degree only from those encountered by any surgeon in civil practice, yet the author is in the position to speak ex cathedra on this subject. The chapter on amputations, as might be anticipated, is most elaborately dealt with. Referring to amputation at the hip-joint we venture to say that the author's estimate of the high mortality would be greatly lowered by resorting to Wyeth's excellent method of hemostasis. The narrative of the other injuries is barely short of a summary, so terse is the account; yet throughout the work the author evinces a thorough appreciation and understanding of asepsis and antisepsis.

To us the term railway surgery also calls to mind the organization effected to meet the demands of treatment of a large number of injured, in which respect it is akin to military surgery, and on which score the author leaves us poorly informed; again the medico-legal aspects are very important and these receive a fair exposition in the later pages. Finally, one cannot help believing that this work might arouse greater interest if many more of the author's actual experiences had been incorporated in its pages.

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ORIGINAL ARTICLES.

NON-TUBERCULAR INFLAMMATION OF THE SPINE.[1]

BY T. HALSTED MYERS, M.D.,
OF NEW YORK;
ATTENDING ORTHOPEDIC SURGEON TO ST. LUKE'S HOSPITAL; CONSULTING SURGEON TO THE NEW YORK ORTHOPEDIC DISPENSARY AND HOSPITAL; CONSULTING ORTHOPEDIC SURGEON TO ST. JOHN'S RIVERSIDE HOSPITAL, ETC.

SINCE the discovery of the bacillus of tuberculosis the tendency has been to ascribe to this source an increasing number of the inflammatory lesions of the spine until, at the present time, I think the pendulum has swung over too far in that direction and that now a considerable number of kyphoses are considered tubercular which are really the result of syphilitic or malignant diseases or due to some of the infectious diseases, or to traumatism. I wish to make this paper as practical as possible, so have aimed to contrast the non-tubercular lesions with those tubercular. The field to be covered is a very broad one, and while in almost every work on orthopedic surgery one hundred or more pages are usually devoted to Pott's disease alone, the non-tubercular lesions are barely mentioned. I shall consider very briefly each division and endeavor to give the histories of one or two typical cases in each.

The syphilitic lesions of the vertebræ present a special difficulty in diagnosis, more particularly those due to congenital syphilis, as in these a reliable history is often lacking. The relation of congenital syphilis to tuberculosis is not understood, though many believe there is some relationship, expressed, perhaps, by making the syphilitic offspring a more than usually favorable soil for tubercular infection. Moreover, there may, of course, be a mixed infection; a tuberculous subject may acquire syphilis, or *vice versa*.

Syphilitic lesions of the vertebræ are comparatively rare, but Dr. Matthias Nicoll has kindly looked over the literature of this subject for me and has found a good many cases reported by such men as Fournier,[1] Virchow, Michel,[2] Gross, Lancereaux, Neleton,[3] Astley Cooper, Verneuil, Westphal,[4] Koenig,[5] Leyden,[6] Jansinski,[7] and others. In these cases lesions were found in every region of the column—cervical, dorsal, lumbar, and sacral, and in every part of the vertebræ—in the bodies, intervertebral disks, transverse and articular processes, laminæ and spines; in the ligaments and in the muscles adjacent; and also every variety of this inflammation—periostitis, rarefying and condensing osteitis, gummata, etc. The cervical region, however, seemed the most often attacked, and one writer thought this might be due to its proximity to the pharynx, which is so often the site of syphilitic lesions. I will relate very briefly the history of two patients I have treated.

Polish boy, twelve years of age; no tuberculosis in family. During the previous year he had been suffering from pain and stiffness of the neck. Motion in any direction was resisted, and he held his head in his hands continually. The head was inclined to the right shoulder and the chin rotated to the left. This deformity was so marked that the sternocleidomastoid muscle had been divided. When I first saw him, however, there was well-marked reflex muscular spasm and some induration about the upper cervical vertebræ, which were a little prominent and somewhat tender on pressure. In November, 1891, a spinal assistant brace, with chin piece, was applied to support and immobilize the head, and the relief from pain was marked. Pott's disease was the first diagnosis; later on (August, 1892) the boy developed lesions in both elbows, the left hip (January, 1894), and a typical syphilitic dactylitis. These symptoms were held in abeyance by specific treatment, but the boy was very irregular in attendance and the treatment, in consequence, was intermittent. When he omitted his iodid and mercury there was an increase of pain and swelling, or new lesions developed. He finally died with cerebral symptoms, about three years after his first examination. I make the diagnosis in this case from the absence of tubercular history, from the multiple lesions in a strong, healthy boy, several of them being periosteal; from the dactylitis, and the effect on all the lesions of antisyphilitic drugs.

A fat, rosy boy, four years old, whose general health was always excellent, without any history of injury, gradually developed a kyphosis at the eleventh dorsal vertebra. About the same time a dactylitis appeared of the first phalanx of the index-finger, which was typical: a fusiform swelling of the whole shaft, only slightly tender, with moderate induration of the skin, and some ulceration. Rapid improvement followed specific treatment, although no change had been effected in the ulcer under antiseptic treatment alone

In this case there was no induration about the spine and very little pain. Weakness was a promi-

[1] Read at a general meeting of the New York Academy of Medicine, February 17, 1899.

nent symptom. The application of a spinal assistant brace relieved all symptoms referable to the spine. The development of the kyphosis was like that of tubercular disease. There was nothing in the local condition from which to make a diagnosis, but the dactylitis and the result of specific treatment established it. His family history also indicated more than a possibility of syphilis.

The following case was reported by Fournier (*Arch. der Dermat. et Syph.*, II., 1, p. 19, 1881).

Man, aged fifty-six, always well until three months ago, when he began to lose flesh and strength and is now hardly able to walk. Pain over kidneys and occasionally in lower extremities. Examination showed a sarcocele, evidently of syphilitic origin; ten subcutaneous gummata in different parts of the body, an ulcer of the thigh and toe, and marked atrophy of gluteal muscles. Antisyphilitic treatment affected only the local lesions, and he died cachectic in three months. The autopsy showed, also, cirrhosis of the liver, perihepatitis, cicatrices on the surface of the kidneys, and gummatous involvement of the left fourth lumbar nerve at its exit. The bodies of the third and fourth lumbar vertebræ were infiltrated with a caseous material; the intervertebral cartilage was also destroyed and the cavity filled with greenish-yellow pus. The posterior ligament was detached, reddened, and thickened over the vertebræ. In the center of the second lumbar vertebra was an empty cavity. The intervertebral disk between the fourth and fifth lumbar vertebræ was also infiltrated with pus and contained a caseous focus. Under the microscope the bodies of the third, fourth, and fifth lumbar vertebræ showed condensing osteitis, with purulent and caseous infiltration exactly as in gummatous osteitis.

Fournier considered the case syphilitic on account of the man's age, fifty-six, his fine physique, because the spinal lesions developed at the same time as the other undoubtedly syphilitic lesions, and because of the nature of the microscopical findings and the gummatous degeneration of the nerves in the region of the affected vertebræ.

Rheumatic inflammations are an interesting group in making a differential diagnosis. As the cause or causes of these conditions are still unknown we must divide the cases according to their clinical history and their gross pathology. By far the most common condition is rheumatoid arthritis, which is described as affecting the bones themselves as well as the other joint-structures, atrophy and absorption taking place under pressure and osteosclerosis occuring elsewhere. It is never accompanied by suppuration. It is a chronic progressive disease attended by aching pains, especially at night and in damp weather, which do not yield to treatment. The ribs are often involved. The cervical region of the spine seems to be the last affected.

Goldthwaite divides these cases into two classes clinically. These he calls rheumatoid arthritis and osteoarthritis, which demand radically different treatment. The first is more acute and occurs early in life, as well as later. During the acute stage the joints, those which can be examined, show a spindle-shaped swelling which finally subsides, leaving the joint much atrophied and usually ankylosed. In these cases the joints should be manipulated after all acute symptoms have disappeared. The second class, called osteoarthritis, seems identical with what is usually called osteitis deformans. This is much more chronic, occurring only in middle life or old age, and is characterized by a proliferation of the articular cartilage, with the formation of nodes about the joints. Manipulation should not be practised in these cases as an injury or undue violence results in a more rapid development of the cartilage. It is this tendency which explains the impairment of function which so often results after comparatively simple injuries to a joint. Protection and immobilization are important in such cases. In them there is crepitation on motion from the eroded cartilages, and neuralgias, and paralysis caused by pressure on the nerves by the new bone formation.

I have seen a number of cases of what may be considered a third form of rheumatic joint-disease, which attacks chiefly the ligamentous structures, transforming them into bone, but leaving the bones and the intervertebral cartilages in a comparatively normal condition. The history of a previous attack of gonorrhea is not infrequently obtained in these cases.

At the December meeting of the Orthopedic Section of the Academy of Medicine Dr. A. M. Phelps presented a sagittal section of a spine which seems to belong to this category. The spine was perfectly rigid from the cervical vertebræ to the coccyx. The bones themselves appeared normal, not condensed, perhaps a little rarefied. The intervertebral disks also were normal, but all the ligaments were transformed into hard, shining bone. A dorsolumbar kyphosis replaced the normal curves, and the femur was ankylosed in a flexed position. This, of course, was a most extreme case, but the picture is not a unique one. The same lesion of a less-severe grade would present clinical symptoms closely resembling the caries sicca of adults—a slowly increasing, poorly defined deformity more disabling than painful, without suppuration, and without very acute symptoms, but obstinately progressive.

Through the kindness of Dr. Reeves of London I saw, last fall, a very good example of this condition, which he called fascial rheumatism, occurring in a man about thirty-six years of age, who had had syphilis at twenty-two years, gonorrhea at twenty-eight, was married at twenty-nine, and had three

children. When first brought to the Royal Orthopedic Hospital he was bent over so much that his head was on a level with his umbilicus. The treatment adopted included antirheumatic drugs, massage, and suspension. Under this method, when I saw him, the curvature had been reduced fully one-half, and he was improving daily. I cite this case as it seems to me that we should make every effort to se cure ankylosis in the best possible position, if ankylosis is inevitable. Thus massage, suspension, and

Deformity in so-called fascial rheumatism.

bracing are distinctly indicated in addition to the constitutional remedies. Certainly in Mr. Reeves' case the result was most gratifying (see figure). As the amount of pain varies a great deal in these cases, it may be found that there is least pain where there is least motion; that the pain ceases when ankylosis is established.

I have had no experience with the so-called Paget's[8] disease. This is principally seen in England and is a peculiar form of enlargement of the bones. There is no chemical change in them and the disease seems to have no relation to syphilis, rheumatism, or tuberculosis. The tibia is generally first attacked, but later the bones of the skull and spine are also affected. It occurs late in life and is a rarefying osteitis, progressing more and more rapidly. The joints are not attacked and suppuration does not occur. Vague but not severe pains accompany it. Great bowing of the limbs and marked exaggeration of the normal spinal curves follow. The bones seem unable to withstand the superimposed weight. No treatment is of any avail. Dr. H. L. Taylor reported two cases a few years ago and appended an excellent bibliography.[9]

Malignant disease of the vertebræ is rare and often the diagnosis is made only at *post-mortem* examination. Carcinoma and sarcoma are present in about equal frequency. Both may be primary, but both usually are metastatic. I will briefly outline two cases I have seen. The history of the first, kindly furnished me by Drs. Briddon and Thacher, I have abstracted as follows:

F. G., twenty-eight years of age. Family history tubercular. Personal history negative. The patient was perfectly well until six months ago. He then noticed enlarged cervical glands. Two months later pain appeared in left hip, running down thigh to knee. This limb gradually lost power and he had to remain in bed. Of late the glands have enlarged and he has lost flesh and strength. Yesterday, while being moved in bed his right thigh was fractured. He is anemic and emaciated. Urine, sp. gr. 1028; alkaline, turbid, and contains casts, pus, and blood. All the cervical, axillary, brachial, inguinal, popliteal, and post-peritoneal glands are enlarged. Spleen large. Left limb in position of third stage of hip disease, with abnormal mobility of head of bone, and crepitus. Edema of both legs; blood showed hemoglobin seventy per cent. Red cells nearly normal; white cells not markedly increased. His temperature ten days later was 104.5° F. and large sloughing area developed over sacrum. He died three days later. The autopsy showed sarcomata of lymph-glands, liver, spleen, pancreas, and bones; chronic cystitis, adherent pleura, perisplenic abscess, and pyelitis. The lower lumbar vertebræ and upper part of sacrum and crest of right ilium were necrotic and bathed in greenish pus. Superficial necrotic spot in front of body of tenth dorsal vertebra. Sarcoma of left femur; fracture of right femur due to sarcoma.

In this case there was no mention of the lesion of the vertebræ nor of the spinal cord symptoms save the bed sores.

The history of the second case was kindly given me by Dr. Norton.

Woman of forty-five years. Malignant tumor was removed from breast in May, 1896. Three months later a second, and in May, 1897, a third operation was necessary. In August, 1897, she began to have

what were considered rheumatic pains in the back, not sharply localized, but chiefly in the lower dorsal region. After three months weakness and numbness of the lower extremities were noted. Absolute motor paralysis followed in two weeks. There was no deformity of the spine, but some deep edema in the lower dorsal region and slight tenderness. A fairly marked girdle sensation was noted also. Below this muscular and tactile sense were diminished, as were the sensations of heat and cold. Pain sense absent. Increase of knee-jerk; occasional lightning pains down legs; sphincter paralysis, bed sores followed by rise of temperature. Death of the patient about five months after the vertebræ became involved.

When a primary malignant growth has been recognized, the occurrence of spinal symptoms would, of course, be traced to their proper source, as in this case, but when the inflammation of the spine is primary, or is overshadowed by more active symptoms, the diagnosis is not so readily made. The first of these cases was thought to be leukemia for some time, and the later symptoms were masked by the fracture.

Kyphosis was seen in only nine out of Dr. Amidon's twenty-four cases. The disease may occur at any age, but the average age is forty-five years. It may infiltrate the bodies, transverse processes, laminæ and spines, or may occur externally on the sides of the vertebræ or ribs. The average length of life after the onset of vertebral symptoms, Amidon found to be eight months. Pain has been a prominent symptom in all these cases, motor paralysis less constant. The cachexia at times did not appear till late. The spinal nerves are often involved in the new growth. Sometimes there are small metastases in the neighborhood which assist in making the diagnosis. These cases are sometimes mistaken for sciatica, lumbago, or Pott's disease.

Hodenpyl,[10] speaking of the association of malignant disease with tuberculosis, says that carcinoma may be grafted on an old tuberculosis, and a tubercular lesion may act as a predisposing cause in locating this deposit just as a traumatism might. Still more rarely a carcinomatous subject may become tubercular. The lesions are not antagonistic, but occur at different periods of life usually.

Hydatids have been found attacking the spine. Dr. Lloyd has given me notes on such a case. A diagnosis of multiple sarcomata had been previously made. Sharp pain existed in the lower lumbar region for two years before any tumor was seen. The tumors were removed nearly nine years after the onset of symptoms, which finally included girdle pain, partial sensory and quite complete motor paralysis below the eleventh dorsal segment, vasomotor disturbances, sphincter paralyses, cystitis, etc. Cysts were found extending between the spines and transverse processes of the eighth and ninth dorsal vertebræ. The adjacent bone was eroded. Crevillier's first case of "paraplegia dolorosa" was caused by an intraspinal hydatid cyst.

Syringomyelia is another rare condition which must be mentioned. Howard Marsh[11] says that scoliosis of the spine, possibly due to an arthropathy of vertebral joints, has been observed in nearly half of the cases of syringomyelia, but he adds, this does not occur in locomotor ataxia.

Very recently[12] the diplococcus intracellularis has been isolated from the pus of an arthritis occurring in a case of cerebrospinal meningitis. This condition used to be considered an arthropathy and suggests the importance of bacteriologic examinations in such cases.

Gonorrheal affections of the spine are exceedingly rare. In one series of 119 cases of gonorrheal rheumatism reported the spine was not involved at all. In another series of 116 cases, reported by Nolan,[13] only two cases of arthritis of the vertebræ occurred, and in these other joints were also affected. One patient was cured, but the other passed from observation before a cure could be obtained. I have seen but one such case, as follows:

B. D., twenty-seven years of age. Good family history. Three years ago had gonorrhea. Six weeks after its onset he had pain in the spine, both knees, and nearly all the joints. He made a good recovery from this attack. Ten weeks ago he had a second attack of gonorrhea, and for eight weeks he has had pain in the lumbar region of the spine and in the right hip, especially on motion and at night. His general health is not now very good. His spine is very rigid and painful on pressure in the lower dorsal and lumbar regions. No pain anteriorly; slight general kyphosis of the affected region. Unfortunately this patient was lost sight of after the first examination.

The histories of these cases are, therefore, very imperfect, as well as few in number. They seem to show, however, that the affection runs a similar course in the spinal articulation as that observed in other joints. The recurrent attacks are more apt than the original inflammation to leave the affected joints ankylosed. As has been mentioned, the cases of "fascial rheumatism" often give a history of an antecedent gonorrhea.

The "typhoid spine" is now pretty well recognized. Dr. Gibney has especially contributed to our knowledge of this condition. It is supposed to be an inflammation of the periosteum or fibrous structures of the spine. There is acute pain on the slightest movement at first; also tenderness. There is little rise of temperature as a rule, and none of

the cases affecting the spine have gone on to abscess formation. Some slight injury may be the localizing cause. The patient is usually attacked shortly after the subsidence of the fever and recovery may be rapid or delayed for eight or ten months.

Many cases of periostitis and caries after typhoid fever are reported and the typhoid bacillus has been found living in one of these foci as long as seven years after the onset of the disease. The paper on the bone lesions following typhoid fever by Parsons [14] of the Johns Hopkins Hospital is the most complete bacteriological study we have thus far. He found the typhoid bacilli only in some of the typhoid nodes, while in others this bacillus was associated with the staphylococcus pyogenes aureus, and once with the staphylococcus pyogenes citreus. He concluded that the typhoid bacillus alone was capable of producing suppuration. As this bacillus is very generally present in the bone-marrow the question is why there are not more cases of bone lesion. Professor Welch remarks that months and years after typhoid there occur cases of periostitis and osteomyelitis due to the typhoid bacillus.

A typhoid node on the tibia or ribs may become swollen, tender, red, and hot, and apparently be on the point of rupture, and then subside again for months, only to repeat the cycle perhaps several times. Parsons suggests that the typhoid spine is either due to such nodes or it may be a simple neurosis. I have never heard of abscesses connected with the vertebræ in a case of typhoid spine, which seems to me rather singular in view of the fact that there is so little tendency for these nodes to subside permanently in other situations. After one or two exacerbations they usually are opened and the typhoid bacilli have been found in them years after the fever has subsided. Partial operations do not cure these nodes; they should be radically excised.

Under the somewhat indefinite term of infectious inflammations might properly be included some of the rheumatic inflammations, the typhoid and gonorrheal, which I have already spoken of, but I now wish to refer only to those of probably pyemic origin which follow scarlet fever, tonsillitis, etc. The lesion is, I think, a periostitis, or an arthritis of some of the vertebral articulations. The germs in these cases become active in the depraved condition of health during, or immediately following these diseases, and generally attack the cervical spine, probably by direct transmission from the throat lesions. Moullin thinks these pyemic conditions have little tendency to become diffuse and that the necrotic sequestra are small if they are formed at all.

I will give the history of the two cases which I think belong to this class.

E. H., three and a half years old; good family history; no traumatism. One and one-half years ago she was "croupy" for two nights. Her neck became stiff and the head took a wry-neck position. Some swelling and tenderness under left ear. Family physician said there was no throat trouble. The deformity disappeared in one week, and all motions of the head were free. Six months later another similar "croupy" attack for one night. Some deformity occurred, persisting for one week. She was then well until September, 1897, when, after a third "croupy" attack, her head became inclined toward the right shoulder with chin rotated toward the left. There was no tension of the sternocleidomastoid muscle on the right side, nor any swelling. No kyphosis; nothing seen in throat. The head was held quite rigidly in this position by reflex muscular spasm. A spinal assistant brace with chin piece was applied and within ten days the head was straight and the range of motion greatly increased. The child is fat and rosy and does not look at all tubercular. (Since writing the above I have learned that this child developed bronchitis and died in four days with symptoms of meningitis.)

R. C., aged seven years; no phthisis in family. Patient was a fat rosy girl. In June, 1897, suddenly developed high fever and sore throat. Next day head was inclined to the right. At night she had pain in the back and right side of her head. After two months she held her head better, but continued to have a little fever for two months longer. A month later, September, 1897, right otorrhea for two days. She had now a marked wry-neck, the contraction being chiefly in the scaleni and deeper muscles. Rotation of head to right impossible; to left, free. Held her head in her hands to prevent jarring. Spinal assistant and chin piece applied with marked and immediate relief of pain and some improvement in position. The head, one month later, February, 1898, was nearly straight. Motions somewhat restricted, but much less so. No swelling; no kyphosis. Continuing this treatment head is now, January, 1899, still slightly rotated to the left and inclined to the right shoulder, but there is no pain, no reflex spasm, and the disease is apparently cured. General condition excellent.

These two cases represent a rather large class. The absence of tubercular history and very healthy appearance of the children, but especially the mode of onset and the rapid improvement are points in the diagnosis. The deformity depends upon the location of the lesion of course and would be the same if the cases were tubercular.

I have seen several cases of traumatic osteitis in which I had some difficulty in excluding Pott's disease. If there are such cases, especially if there are any considerable number of them, it is time they should receive more attention than has been given them thus far. Of course there are many cases of traumatisms of the spine in which the diagnosis is clear. Evidently there has been a dislocation or a

fracture of the vertebra. The cord, perhaps, has been more or less severely injured also, and the ensuing paralysis may obscure the symptoms due to the lesion of the bone itself. The clinical picture, however, bears no resemblance to a case of Pott's disease. Then there is a very large class of cases in which the traumatism is followed within a few days or weeks by symptoms of Pott's disease, and which the subsequent history proves to be this disease, where, in other words, the tubercle bacilli have infected the site of the injury. I shall not refer to either of these classes.

The cases which I wish to call to your attention are those in which the traumatism is followed by such symptoms or by such deformity as is commonly found in Pott's disease, and yet which are proven by the subsequent history not to be tubercular. Injuries of the vertebræ are usually the result of indirect violence. Of course there are numerous instances of kicks, blows upon the back, falls against projecting objects, etc., but the great majority are the result of falls which bend the head or trunk forcibly in some direction. The cervical and lumbar vertebræ are most vulnerable, as the upper ten dorsal vertebræ are ably protected and solidified by the ribs. Where a rigid part of the spine joins a less rigid part there seems to be special liability to injury from these bendings, that is, the cervical region and the eleventh and twelfth dorsal at the lower end of the thorax, and the fifth lumbar adjoining the sacrum. These remarks do not apply so well to very young children as to adults, as I have tried twice to produce a fracture or dislocation in the bodies of children a year old by forcible anterior flexions and failed. None of the cases which I have observed has been in a very young child and most of them have been in adults. I will give the histories of a few cases to illustrate the point I wish to make.

D. S., eight years old. February 7, 1890. Good family history. Perfectly well until injury. Fell down seven steps striking head on floor. After four hours in bed he went about again complaining of headache, stiff neck, and pain in right shoulder. Examination on sixth day showed slight prominence of fifth and sixth cervical spine, and a dorsal curve to left. Drooping of right shoulder; swelling above right scapula. Slight limitation of flexion and a rotation of head to left. No spinal-cord symptoms. Dr. Shaffer also saw the patient and thought as I did, that the boy was in need of mechanical support. Three weeks later the pain had disappeared with most of the limitation of motion and some of the deformity. He wore the spinal assistant and chin piece less than three months. Spine then straight, motion of head free; no pain, and kyphosis less evident. No further symptoms.

M. B., fourteen years old. Diving in surf injured neck, and a wry-neck position was soon noticed. Whether it occurred at the time of the accident or not was not known. He had, however, no mechanical treatment until I saw him nearly a year later. Then the head was rotated to the left and inclined toward the left shoulder. Motions of the head were limited and painful. General health good. Spinal assistant and chin piece were worn for a year, with fifty per cent. improvement in position, and cessation of all pain.

The question at first in both these cases, when I saw them some time after the injury, was whether the limitation in motion was due to reflex spasm or to a purely mechanical cause. There was mechanical resistance surely, but was the additional pain on motion and resistance, voluntary or involuntary? The proper treatment was evidently protection, whether there was a simple inflammation of the periosteum or bone, or a tubercular process, but it was not so easy to give a reliable prognosis to the anxious parents. As a matter of fact the first patient recovered perfectly in a few months, while the second required a year to secure a cure and then the deformity was but partially corrected.

While the dorsal region of the spine is the most frequent seat of Pott's disease, yet, theoretically, if a fracture occurs here the parts are so splinted anatomically that recovery without increase of deformity is to be expected unless a subsequent infection occurs with its attendant caries or necrosis. Besides the spine is so strongly protected here that any injury severe enough to fracture a transverse process or the body of the vertebra will injure the cord also, in all probability, and I do not recall a case and did not find one in the case-book of the New York Orthopedic Dispensary, which I examined, through the kindness of Dr. Shaffer, from 1890 to 1896, inclusive, in which a traumatism without spinal-cord lesion or subsequent tubercular infection was followed by kyphosis with the symptoms and history of a simple osteitis only.

By far the larger number of cases are found in the dorso-lumbar region. The following occurred in my private practice and caused me considerable uneasiness from time to time.

J. E., forty-two years of age. Good family and personal history. Fell from roof twenty-five feet, striking on feet, then bending forward. On admission to a hospital he was repeatedly examined and assured that his spine was not injured. He complained of a good deal of pain in the left gluteal region, and this continued from three to four weeks. His spine was examined repeatedly during the next three weeks but nothing was discovered to account for the weakness he felt in his back, which was so pronounced that he could not hold himself erect, either sitting or standing, without support. There was

slight tenderness over the dorsal and lumbar spine. A month after the accident I found a very slight kyphosis at the twelfth dorsal and first and second lumbar vertebræ. A spinal assistant was applied. The cure was perfected in four months though the patient was an adult. There could not have been any tubercular infection in this case.

G. D., a man twenty years old, more than six feet tall and weighing more than 200 pounds, slipped while carrying a weight and was thrown backward. He felt something give way in the lumbar region. He experienced a sensation of "pins and needles" in his feet for a short time but soon went to work on his farm as usual. Two months later he injured the same place, and again seven months later; this time he was in bed ten days. A fourth and fifth similar injury soon made his back so painful that he had to stay in bed.

I first saw him in September, 1889, and found a very slight kyphosis at the ninth and tenth dorsal vertebræ with some tenderness and a slight lordosis of the twelfth dorsal and first lumbar. The knee-jerks were exaggerated. Pain on motion, and some paresthesia and muscular twitchings of legs. Could walk only one or two steps. January, 1890, four months later, I saw him again at St. Luke's Hospital and put him to bed wearing a plaster-of-Paris jacket. July, 1893, three and one-half years later, he could walk half a mile; reflexes normal; no deformity found; no pain; tired readily; final brace applied. February, 1895, one and one-half years later, walks three miles; does farm work with crowbar, and the like. Splendid general health; fat and rosy; cured.

Notwithstanding the long duration of the local symptoms I do not believe this man had Pott's disease because (1) of his good family and personal history; (2) his splendid physique; (3) the absolute carelessness of his conduct which prevented his ever giving long-continued rest to the injured spine; (4) local condition. At the present time there is no deformity except a slight depression at the first lumbar vertebra. Motions of the spine are almost perfect. He has no pain and no disability.

Mr. C.; good family and personal history. When fourteen years old had a severe fall on back in a gymnasium. He was laid up for two or three days, and his back was very sore for a long time. During the following years, though he rowed, drove, etc., three or four times each year he would have severe pains in the dorsal and lumbar regions for a week or so, then they would gradually die away. When he was eighteen years old he noted a swelling in the right lumbar region which became large and tender, and he had chills. The abscess contained pus and blood. Three months after this was opened a spicule of bone was discharged. There was no spinal deformity at this time. After two months he was taken to St. Luke's Hospital, where a small kyphosis was noted and I applied a spinal assistant brace. The abscesses continued to discharge for three years, when a large sequestrum was discharged and the abscesses promptly closed. The pain was always in the back, not anteriorly, but was at once relieved by the brace which he wore six years, though he was believed to have been cured two years before he discarded it. Examination February 16, 1898, six years after the brace was removed, shows the eleventh dorsal vertebra to be slightly prominent only because the twelfth dorsal and first lumbar are a little depressed. Anterior, posterior, and lateral motion about normal. Fat and well, weighs 175 pounds, and has a chest expansion of 5 inches. I do not consider this case tubercular, nor does Dr. Shaffer, who also saw the patient several times with me. The patient, however, was refused insurance by a life insurance company within the past four years because there is a rule against taking risks on persons with Pott's disease. This was done although the medical inspector highly recommended the risk. He was also refused by another life insurance company for the same reason within the last eighteen months. A third company, however, was willing to take the risk to any amount.

I have the histories of about a dozen other cases, but I will not weary you with them, but will say that a number of the subjects were in the large general hospitals for days and weeks even without a correct diagnosis having been made. This may be accounted for often from the fact that the deformity will frequently not appear until the patient assumes the upright position.

The lumbosacral juncture is another part of the spine which is especially liable to injury. I have notes on two cases of spondylolisthesis which had at some time been mistaken for Pott's disease, which I will very briefly cite on this account as well as to show the good effect of treatment.

Mrs. de C.; seen with Dr. P. H. Fitzhugh; thirty years of age, fell heavily when two years old, injuring the fifth lumbar vertebra. At eight years another severe fall; seven months in bed. Never well since. Wore imperfect supports for a time. A third fall a year ago, and was in bed two weeks at that time. Has been married twelve years and had two still births, with great increase of spinal pain, and increase of curvature after the last one, eighteen months ago. Examination shows well-marked deformities of spondylolisthesis. Can walk but a few steps. Cannot sit up, and has pain even when supine. Has a great deal of pain in abdomen, legs, and back. A spinal brace with abdominal belt was advised in order to give rest to the spine, and to relieve the lordosis. The result was immediate relief, and within a few months she could walk miles, sit out an entire performance at the theater, etc., which she had never before been able to do.

M. T., twenty-six years old, fell on some stones when six years old, striking back; never perfectly well again. At sixteen years could hardly walk at all on account of weariness in legs and tired feeling in back. Then was in hospital two years, gradually improving with quiet life. Now, after two

years of heavier work than she had been accustomed to, she presents herself for treatment on account of a marked tired feeling in her back. She can walk two miles, and can stand jars, but cannot stoop forward. Marked lordosis. Pubes prominent, and pelvis tilted upward. Spondylolisthesis. Spinal uprights applied February 11, 1891, with marked relief of the tired feeling.

The explanation I would offer for these cases of traumatism of the spine simulating Pott's disease is as follows: a fracture in a long bone will require from six to eight weeks to become consolidated. Where the vertebræ are fractured and little or no injury is done to the cord there is local weakness and some tenderness, but often only a moderate amount of pain (that is, comparing it with that accompanying fractures of the long bones) and often no crepitus, so that the injury to the bone may escape notice. As a rule, therefore, a sufficiently long period of rest and protection is not enforced. Moreover, it is very difficult to keep these parts quiet on account of the small size of the bones themselves and the length of the body above and below the injured part. Probably non-union results. There may be no deformity at first on account of the many powerful ligaments and muscles holding the parts in place, but when the erect position is assumed the weight of the body will *gradually* produce a kyphosis or lordosis, as the case may be. Aside from the history of the accident the picture now presented is one of ordinary chronic osteitis and might easily be mistaken for Pott's disease. We have the characteristic deformity, the reflex spasm, and continuing pain and disability.

I cannot believe that tuberculosis occurs in the osseous system primarily. At the New York Foundling Hospital I made many autopsies when I was an interne there, in cases in which this looked possible, but always found enlarged bronchial or mesenteric glands also, showing the path by which the bacilli gained entrance to the system.

I do not think, either, that the presence of abscess and extrusion of bone prove an inflammation to be tubercular. I have seen several cases in which a severe traumatism of the spine was followed within a short time by abscess formation which did not appear tuberculous, both in the cervical and dorsolumbar region.

Tubercular lesions of the bone run a pretty definite, well-known course, and while no sharp lines can be drawn, I should be inclined to doubt the diagnosis of tubercular spondylitis if the cure were effected within one year.

Several practical points are suggested by this consideration of the non-tubercular lesions of the spine:

1. Syphilitic treatment should be pushed when there is a possibility of this disease being present. The pain will be relieved and the progress and extension of the disease stopped generally; moreover, many very brilliant cures are recorded when the symptoms seem to be due to pressure on the cord or nerves from gummata, and periostitis.

2. Fractures should be more carefully protected and for a longer period to prevent occurrence of deformity and paralysis and to relieve pain and disability.

3. Rheumatoid arthritis can be rendered less deforming and less dangerous to life, therefore, by securing ankylosis in a good position, if ankylosis cannot be avoided.

4. From a medico-legal standpoint it is important to remember that not all chronic increasing kyphoses are tubercular, and, therefore, exorbitant damages should not be awarded in all such cases. We should also consider the beneficial effect on the mental complexion of the patient and his family of the recognition of this fact.

5. Life insurance should not be refused such subjects. Some of the companies have hard and fixed rules, such as the one referred to, that no risks should be taken on a person with Pott's disease. When a mistake in diagnosis can so readily be made, which would work to the applicant's disadvantage, it would seem most just to consider each case separately.

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AFRICAN BLACK-WATER FEVER.[1]

BY FRANKLIN PIERCE LYNCH, M.D.,

RESIDENT PHYSICIAN OF THE SANITARIUM OF THE AMERICAN BAPTIST MISSIONARY UNION, MUKIMVIKA, CONGO ANGOLA, SOUTH-WEST AFRICA.

GEOGRAPHICALLY considered, the African black-water fever appears most frequently and in its most severe forms in the African tropics, following the foreigner as he enters the country from its western or eastern coasts. Although many places on the western coast have been occupied by foreign residents for more than a century, it is only in comparatively recent years that this peculiar form of fever

[1] Read before the New York Academy of Medicine, April 6, 1899.

has appeared. The writer of this paper was stationed on the Congo from 1893 to 1898; and on arrival found the black-water fever held in great dread and reported of frequent and fatal occurrence. Information of its symptoms and history was obtained from various residents, especially from one who had lived in the Congo region for twenty five years, but had never contracted the disease. He stated that during the first ten years of his residence in the lower Congo he had never seen a case or heard of that form of fever.

The purpose of this paper is to present briefly some points of clinical observation rather than a consideration of the various present theories of its cause and origin. The range of observation and experience was confined to the lower Congo and its immediate coast-line, in which the number of foreign residents, comprising traders, officials and missionaries, is limited to less than three hundred scattered over an area of one hundred miles. The disease is confined exclusively to the white population; and so is not known among the natives, neither has a case come under observation among the half-castes of the country. It prevails in the rainy or hot season, and not a single instance is recalled of an occurrence during the cold or dry season. The most marked and characteristic symptom is that from which it derives its English designation, African black-water fever, as the urine of the patient varies in color from that of a light claret to a deep porter appearance. So far as the histories of the patients under personal observation would indicate, the disease comes suddenly and without marked premonitory symptoms. The first indication of its presence is the changed condition of the urine. A test of temperature will give a record varying from 101° to 106° F., which as a rule responds readily to treatment. The fearful dread in which the disease is held renders the patient nervous and keenly apprehensive, as he has doubtless heard of or seen some one, seemingly as strong or of better constitution than himself, who has suddenly been stricken and died within two or three days. The expression is therefore anxious, the eyes often yellow and the skin dry and sallow. Vomiting is present and is sometimes depressingly severe, with bile in surprising quantities. Constipation has always been present; and with purgation and following rectal injections the evacuations are profuse and tar-like in color and consistency. The duration of the disease may extend from one to three days, and if there is no improvement by the third day the prognosis is fatal. Should suppression of the urine occur and continue unresponsive to treatment, the patient will sink into unconsciousness and pass away. The disease is comparatively painless, although passing reference may be made to a headache or a sense of heaviness with a sensation of soreness in the back and over the abdomen. The mind of the patient seems to be so absorbed in the condition of the urine that other matters are of but little interest. He may be much depressed, but delirium is rarely present. Apparent physical conditions do not seem a factor as a determining cause or predisposition toward an attack of the fever. A vigorous man will fall as readily a victim as one of delicate constitution, and each stands an equal chance of recovery.

In the lower Congo region the disease is found exclusively in those who have been two or more years in the country. A return to the Congo after a vacation in Europe will sometimes be followed by an attack. In a few instances, persons who have never had the fever on the Congo have had an attack on the homeward voyage or some time after arrival. A matter of note and interest is its rare occurrence among the women who have bravely entered the country, remaining in some instances from three to five years of continued residence. In most of the cases treated the patients had been of careless habits in the matter of exposure to the sun or rain, would rarely take needed medicine, and often with pronounced prejudice regarding quinin.

In the event of recovery, convalescence is remarkably rapid, and in a few days the patient may return to normal conditions and will experience a sense of general well-being and satisfaction with his surroundings. There is an occasional recurrence in one or two weeks, and in that event, the second attack may be more severe than the first. In each case of relapse under observation there was neglect of suggested precaution and of the continued use of quinin. Quinin would almost seem to be a specific for the disease, and its marked benefit as a prophylactic cannot be questioned. An instance is personally known to the writer, of a resident who after neglecting the use of quinin was taken with a severe form of black-water fever. Upon recovery he determined to use quinin with careful regularity, and has taken five grains of the bisulphate daily for at least ten years. He has been in England on furlough and back to his station and has never had a return of the fever. His last term of service extended over six years of continued residence (the usual term for the Congo is three years) and he has maintained good health during that exceptionally long period.

The treatment, which has been most satisfactory in results, must be prompt and persistent, though seemingly drastic. The conditions of the stomach are often difficult to control. In the early cases which came under my charge subnitrate of bismuth and bicarbonate of soda were used, but marked

benefit was obtained in the later cases by the prompt administration of mustard and water. This simple emetic cleared the stomach and the counter-irritation of the mustard seemed to have a decided sedative effect and left the stomach free for the first administration of medicine. The bismuth and soda were more satisfactory after the emetic. Prompt and free catharsis is indicated, which was obtained by compound cathartic tablets, crushed for ready assimilation, or the administration of calomel and jalap. The calomel is to be preferred in severe irritation of the stomach, as it will be retained even with severe retching. The dose of calomel was never more than 5 grains, but European physicians are reported as using 15 grains as a dose. A rectal injection of from one pint to one quart of warm water should immediately follow the administration of the cathartic and should be repeated twice a day until recovery. The patient should be stripped of all clothing and rolled in blankets and hot-water bottles applied to his back and feet. Rubber sheeting spread over the bed will be of great convenience and advantage when it is desired to change the patient from the blankets to the dry sheets, as the bed will then be perfectly dry. Diaphoretics should immediately follow the application of the hot-water bottles, and a dram of sweet spirits of niter in 8 ounces of hot water, sipped slowly, after which 20 grains of antipyrin should be given. In some cases the odor of the sweet spirits of niter suggests nausea, but firmness with the patient will generally insure its safe administration. A ready response will usually follow the treatment and within fifteen minutes or half an hour the patient will be in a profuse perspiration. He will find the confinement in the blankets irksome, but it is of the highest importance that he be kept in them until the temperature drops to normal or to 100° F. The time may vary from three to nine hours, but if the temperature can be reduced in that manner a returning rise of temperature is rare.

Digitalis is also indicated in the changed condition of the pulse and for its stimulating effect upon the kidneys. Hemostatics were used in the early cases, but without appreciable effect, so they were discontinued to save needless strain upon the sensitive stomach. As soon as the temperature begins to lower 15 grains of the bisulphate of quinin should be administered, and it is of the utmost importance that the patient be kept under the constant influence of that invaluable remedy until recovery. It is also advisable to continue the use of quinin in doses of from 3 to 5 grains every two or three days, and in some cases it should be given daily for a long time after convalescence. The form of administration must be determined by the condition of the stomach, by the mouth, rectum or hypodermic injections, as the case may require. Diet is highly important and the individual needs of each patient will be evident. Alcoholic stimulants are rarely indicated, and should be employed, if ever, with extreme caution. Free purgation with rectal injections of warm water twice a day; diaphoresis, if possible, until the reduction of temperature, and the daily administration of quinin are the cardinal points in successful treatment. Prompt action and constant care with a firm but gentle command of the patient which will inspire confidence are also essential to successful results. In eighteen cases in which the treatment outlined was followed but one patient failed to recover.

Criticism has been offered on the evident lack of scientific investigation in reports of this disease. The conditions of life and the limited resources of a physician in the pioneer places in which the disease is found can scarcely be appreciated except by actual experience. The means of travel and the surroundings of the foreign resident are often most primitive, and the physician must rely completely upon his own resources without opportunity for professional assistance or consultation. He may have traveled all night in a canoe, and wearied with the trip, arrives at last to find the patient in a desperate condition. A trader rarely makes provision for sickness. An empty quinin bottle, an unwise investment of some former occupant of the station, and a bottle of fruit salts, a "cure in all climates and conditions," completes the usual list. The writer never found a suitable woolen blanket in a trading station. The physician must often be nurse and attendant, and with a disease so swift in its onset and severe in its progress and of such fatal possibilities, every energy must be bent to the paramount purpose of saving the life of the patient. Under such circumstances he has no opportunity for complacent and deliberate scientific investigation. No one can regret more than the physician upon whom rests the responsibilities of treatment of the disease the present lack of thorough knowledge of the etiology and pathology of African black-water fever. The present investigations are full of promise, and every fresh suggestion is of keen interest to the physician battling alone with the dread disease at the far outposts of progress.

A $25,000 Fellowship.—Alvan R. Johnson, Esq., of Brooklyn has presented to the Trustees of the Long Island College Hospital securities worth $25,000 for the endowment of a fellowship in the department of pathology, to be known as the Van Cott Fellowship, in honor of Dr. Joshua Van Cott, who will during his lifetime select the incumbent annually. The income will be about $1250.

THE RELATIVE DEATH-RATES FROM CANCER AND CONSUMPTION.[1]

BY JOHN H. PRYOR, M.D.,
OF BUFFALO, N. Y.

It is a part of probability that many improbable things will happen.—*Aristotle.*

THE term consumption, when employed in this paper, refers to pulmonary tuberculosis only.

Recently considerable literature has appeared in medical journals, lay periodicals, and the daily newspapers concerning the death-rate from cancer in this State. It has been compared with consumption to show a relative gain which has surprised the profession and the public. Wild statements have been accepted without examination, and they have caused alarm, and given rise to opinions which are erroneous and misleading. One writer of eminence has repeatedly published statistical information, conclusions, and predictions with reference to the death-rate from cancer which are startling if true.

At this time special attention will be invited to two recent contributions: First, an article, entitled "A Further Study into the Frequency and Nature of Cancer," MEDICAL NEWS, April 1, 1899, and, second, "First Annual Report of the Director of the New York State Pathological Laboratory of the University of Buffalo," transmitted to the Legislature, January 26, 1899. This report to the Legislature is an official communication, and the following quotation explains the relations of the institution and the State: "Last year the Legislature appropriated $10,000 to the Medical Department of the University of Buffalo for the purpose of equipping and maintaining a laboratory to be devoted to the study of the causes, mortality-rate, and treatment of cancer." In each articles figures derived from the reports of the State Board of Health are given, and the increase of cancer during the last eleven years is offered in support of this remarkable conclusion: "A careful study of these tables permits one to make the following startling prophecy: If during the next ten years the relative death-rates are maintained we shall find that ten years from now, *viz.*, in 1909, there will be more deaths in New York State from cancer than from consumption, smallpox, and typhoid fever combined." The extraordinary nature of this prediction is appreciated, and italics are employed to emphasize its portentious meaning. Incredulity has led to a scrutiny of the data presented in proof of this assertion.

In the MEDICAL NEWS the following figures are published to show the mortality from cancer and consumption during the last eleven years, or twelve years inclusive: Deaths from cancer in New York State, 1887, 2363; from consumption, 1887, 11,609. "In 1898 there were 4456 deaths from cancer, and only 12,552 from consumption." The figures for 1898 are incorrect; they should be deaths from cancer, 4385; deaths from consumption, 12,979; a decrease of 71 for cancer, and an increase of 427 for consumption. Now to estimate the increase from 1887 to 1898, without any reference to yearly increase or averages, is manifestly inaccurate, but allowing that privilege, the gain in the death-rate from cancer is 85 per cent., and consumption 11.8 per cent. If fractions of percentage be dropped the gain of cancer over consumption is 77 per cent. for eleven years, or for twelve years, inclusive.

The sources of error due to the peculiarities displayed by disease and the influencing conditions are so numerous and glaringly apparent that one can place slight credence upon any estimate for future years. But if any one has sufficient interest to compute the probable increase in deaths from cancer according to the percentage given he will find that cancer must increase more than three times faster in the next ten years than it has in the last eleven years to destroy as many lives as consumption. "If the relative death-rates are maintained" cancer will destroy as many as consumption and typhoid fever in from forty to fifty years. I repeat, all such generalizations and predictions are unjustifiable scientifically, and only excite morbid interest and promote novel theories which mislead.

If any consideration of typhoid fever and smallpox be eliminated some confusion and misapprehension may be avoided. The dread disease smallpox caused one death in this State last year, and the very small percentage of deaths from typhoid fever in proportion to the number who suffer from that disease may lead to false views of its prevalence as compared with cancer. Perhaps the danger of any prognostication regarding the future conduct of a disease may be illustrated in passing by citing the death-rate from typhoid fever last year when it jumped up 469 over 1897, due largely to epidemics in military camps. Consumption increased its death-rate 338, and cancer 254, a gain of 503, which cancer must overcome at its average increase of 160 per year. In the report to the Legislature mentioned, tabulated figures prepared from the reports of the State Board of Health are furnished, and the principal part of the report devoted to mortality is employed to show the relative increase of cancer and decrease of consumption. Statistical Table VI., page 15, contains the estimated population for each death from these two diseases from 1887 to 1898. The deductions are based upon the whole increase again, not upon the average. To quote: "Thus,

[1] Read at a meeting of the Alumni Association of the University of Buffalo, April 25, 1899.

in 1887 1 person in every 2402 died of cancer, and 1 of every 499 of consumption. . . . The table also shows an increase (of deaths from cancer) of 40 per cent. during the eleven years tabulated." "In other words, in 1887 1 out of every 2400 died from cancer, in 1898 1 out of every 1500. The same table shows that the mortality-rate from consumption has shown a marked decrease." The figures given for 1898 are 1568 for cancer, and 544 for consumption. They are incorrect, and should be 1596 and 540, respectively, a decrease of 28 for cancer, and an increase of 4 for consumption. A consideration of these figures given in the statistical table leads the author to the alarming prediction in italics intended to show that the deaths from cancer will exceed those from the three diseases already mentioned. It will be found that an increase of 40 per cent. for the next ten years, even provided the death-rate from consumption remains the same, will yield the following result: Deaths from cancer, 6139; deaths from consumption, 13,000.

An estimate of the average death-rate to the population to equalize variations shows for eleven years: cancer, 1 death per 2210, and consumption, 1 death per 476. Thus consumption exhibits an average death-rate per year much higher than the figures given in the summary above. Consumption causes about 11 per cent. of all deaths. The percentage for each of the eleven years runs from 10.6 to 11 per cent. The deaths from cancer show an average gain of 1 per cent., an increase of 1.5 per cent. in 1898 over 1887. The number of deaths from cancer in 1898 is given as 3.7 per cent. of the total deaths for that year. The average increase of deaths from cancer during eleven years is 160 each year, and at the rate of increase for ten years the total number of deaths from that disease in 1909 would be 5985. Consumption increased its number of deaths on an average of 136 per year, and if the same ratio is maintained 14,839 will die from that disease in 1909.

This computation is introduced simply to illustrate a discrepancy in estimating results based upon vital statistics, and to show that the expected increase of cancer is exaggerated. Nor can it be fairly claimed that the death-rate from cancer increases progressively. By dividing a series of twelve years into two periods of six years, and estimating the increase it will be found to be very slight, and certain districts of the State show a tendency to preserve an unchanging death-rate, or a gradual decrease in rapidity of increase. The reports from New York City for thirty-one years, divided into three decades reveal an increase represented by 55, 73, and 39 per cent., and for the last five years, 23 per cent. Cancer is not the only disease characterized by a steadily increasing death-rate. Diseases of the urinary system, and particularly Bright's disease and pneumonia, have increased almost if not quite as fast, especially if considered in relation to mortality and the number affected. The fact that cancer is increasing is best illustrated by the advance in percentage of the death-rate in comparison with the general death-rate. However grave the outlook may be, there is no justification for the expected increase of more than 300 per cent. in ten years, when by the most liberal and questionable methods the past gain has been 85 per cent. in eleven years.

For some reason not explained by an examination of the mortuary returns the statement has repeatedly been made that a certain locality in New York State, of which Buffalo has been said to be the center, belongs to a distinct "cancer-belt," where cancer is prevalent to a remarkable degree. The belief in this myth has became quite widespread, and recently inquiries from a distance have been reaching physicians here. There seems to be no good reason why the rumor should go longer without a denial It is doing the City of Buffalo no particular good, especially in view of its boasted low death-rate. The returns of deaths from cancer in the Lake Ontario and Western District, in which Buffalo is included, gives a death-rate of 61 per 100,000 for 1896 and 1898. This shows not only no increase per population, but a rate below the average for the State. The death-rate for Buffalo is 58 per 100,000, or below that of the district. It is also below that of other cities in different parts of the State. Compared with the State of Massachusetts, certainly far removed from any supposed "cancer-belt," and noted for the reliability of its vital statistics, it is found that the rate for that State in 1895 was 64 per 100,000, or 6 per 100,000 more than Buffalo. In Massachusetts the death-rate from cancer has almost trebled in forty years, and in Michigan is about three times as great as it was thirty-one years ago. In both States the increase is somewhat greater than in New York State in spite of the larger population.

There are possible sources of error which must be considered as bearing upon the death-rate and prevalence of cancer and consumption. The increase in reports of death from cancer may be accounted for to an indefinite extent by more complete and accurate returns, improvements in diagnosis, and added knowledge due to operative interference, particularly in the abdominal cavity. We must also bear in mind that an unknown number of patients come to large medical centers in this State and, dying, add to the mortuary records. Practically every

case of cancer is reported, because almost invariably fatal. On the other hand, many consumptives leave the State for other climates, and the deaths are unrecorded here. A certain unknown percentage recover, and at least 25 per cent. of autopsies reveal evidences of tuberculosis not fatal or healed. The difficulties in securing Sick, Industrial, and Life Insurance, and efforts to protect the family at times, is giving rise to evasion and false returns.

Surgical treatment of tuberculosis, which has improved remarkably in recent years, has lessened the number of consumptives by the eradication of foci of infection. Finally, the fact cannot be emphasized too strongly that consumption indicates an affection of one organ and tuberculosis of all other organs is not included in recent comparative death-rates. This is partial and misleading. If all the deaths from tuberculosis in the unclassified list, and the deaths in childhood, due to the same cause, were added, the disparity between the deaths from cancer and consumption already shown would be still further magnified.

Of late the assertion that consumption has materially decreased and steadily declined in New York State has been reiterated without any explanatory data of a broad or comprehensive character. It is now sixteen years since Koch's discovery of the cause of tuberculosis, and since new methods of prevention were suggested. The death-rate continued to advance numerically until 1887, then fluctuated until 1892, since which time it has remained stationary or has slightly declined. Since 1887 the average increase has been 136 for twelve years. In 1897 there was a marked decrease, and the enthusiasts made promising conjectures and attributed great results to so-called prevention. In 1898 there was an increase of 338, and 12,979 deaths, very near the 13,000 average again. Whenever a decrease has occurred it has not been general, and the slight diminution in recent years is largely due to a lower death-rate from the disease in New York City, particularly among females.

In the districts of the State, all save the maritime, which includes New York City, the number of deaths per 100,000 population has increased. The percentage of all deaths, and the number per 1000 deaths, has remained practically the same save in 1897, and it increased again in 1898. In 1893 the number of deaths per 1000 from all causes was 105.94; average for six years 108.13; and in 1898, 108.13. Consumption causes as many deaths, but not as many in proportion to the population. The explanation is to be found in the recent great diminution in the general death-rate, and consumption simply shares with other zymotic diseases in the prolongation of life and greater freedom from disease. It claims its proportion of the small death-rate as it has of the high, but its death-rate does not decrease so rapidly as the general death-rate.

The death-rate in New York has decreased twenty-two per cent. since 1888, and much more rapidly in some cities, *viz.:* Buffalo, whose death-rate last year was 12.25 per 1000, and that of the State, 18.10. Compared with a preventable disease, *i.e.*, scarlet fever, the difference is very plain, and with a disease where prevention and saving of life is combined, *i.e.*, diphtheria, the remarkable decrease of the latter and the curious constancy of consumption are most striking. To repeat, the number of deaths from all causes in proportion to the population has undergone a most remarkable decrease in the last ten years. The population has steadily increased from 5,800,000 in 1888 to 7,000,000 in 1898, while the death-rate has declined. There are fewer deaths from all causes, but consumption continues to claim its proportion. Numerically, the death-rate may vary or diminish during certain periods, but tuberculosis in all forms is still responsible for one-seventh of the deaths in this State.

When considered in relation to all the facts, the claim that consumption has markedly decreased is exaggerated, and the statement that the disease has been checked in its spread is more accurate and trustworthy. Furthermore, this limiting of its ravages cannot be ascribed except in small part to any special efforts in the way of prevention. The wave of sanitary improvement has probably accomplished the result by removing the cause, increasing vital resistance, and eradicating vicious and, therefore, encouraging environments and conditions. Modern ideas of prevention have never been put in practice in this State except to a slight extent. What changes their adoption might produce are unknown. Unless new methods of dealing with the disease are introduced there is no sufficient justification for the pleasing prophecy so often heard that the scourge will pause in its awful work. That its death-rate will diminish in the next ten years enough to allow cancer to overtake it, obviously calls for no comment. The fatal disease, cancer, appears to be increasing with such rapidity that the mere mention of the fact is enough to cause apprehension and alarm and to stimulate a desire to learn more of the cause and nature of the malady. Any comparison is unnecessary, and is apt to prove harmful by confusing the public mind and distracting attention from problems of the day pressing for solution.

The State has made a commendable move in establishing a State Laboratory in which investigations relating to the cause and nature of cancer may

be pursued. If appropriations are liberal enough to allow of a proper prosecution of the work, something may be accomplished. As yet no proof has been established of its infectious nature or parasitic origin, but many signs point in that direction, and the fact that those qualified to undertake the investigation are pursuing the matter with scientific zeal makes the future outlook somewhat more hopeful. How near or how far we are from the time when more may be known of cancer cannot at present be conjectured. We know the cause of consumption and the conditions which promote the disease. We know that it is infectious and largely preventable. We know that a percentage, varying from 60 to 75 per cent. of early cases can be cured, and the remainder improved by proper treatment. Therefore, an immense and unnecessary loss of life, and an appalling and unnecessary amount of suffering prevails in this State because of stupid, antiquated, inhuman, and wasteful methods of dealing with the consumptive. How long the death-rate from consumption will remain a disgrace to the medical profession and the State we cannot know, but the time will not be shortened by the recent tendency to exaggerate the importance of one disease and belittle the dangers from another. The possibility of the death-rate of cancer exceeding that of consumption in 1909 on the present ratio of increase can only be realized by some unlooked for and very unusual occurrence. Undoubtedly the number of deaths from consumption can be greatly decreased by prevention and proper care, and if rational methods of relief are ever adopted the time may come when the wide difference between the mortality-rate from cancer and consumption may be greatly diminished or obliterated.

COD-LIVER OIL.[1]

By THOMAS E. McARDLE, M.D.,
of Washington, D. C.;
Professor of Minor Surgery, Medical Department, Columbian University;
and
W. H. WILEY, M.D., Ph.D.,
of Washington, D.C.;
Chief of the Chemical Division, U. S. Agricultural Department.

THREE years ago I read a paper before this Society on the therapeutic value of cod-liver oil. It was my purpose to impress upon the members the true value of this agent in certain diseases, fearing they might have forgotten this old remedy in the continued search for novelties. During the time which has elapsed since the reading of that paper I have given much thought to the study of this subject, and I have become more convinced than ever that it is one of the most valuable remedies of the Materia Medica for the treatment of a large number of the so-called wasting diseases of children, and also for those peculiar conditions of adults embraced under the common term anemia. In other words, whenever the blood is deficient in the red blood-corpuscles, when the body weight is below normal, and when every function seems deranged, we have in cod-liver oil a remedy of great value.

The potency of the remedy, however, lies in its proper use. One of the principal efforts of my first paper was directed toward proving the necessity of using the whole oil. In order to prove of value, it might as well be understood first as last that the whole oil must be used. Indeed, we prescribe cod-liver oil mainly because of the fat it contains. Whilst the so-called active principles of alkaloids may have some therapeutic power, I am fully convinced, after having given this subject most careful study for a long time, that the fat in cod-liver oil is its chief factor in furthering the processes of nutrition. We must not lose sight of the fact, however, that the combination which Nature has formed so perfectly between this particular fat and its accompanying alkaloids gives a peculiar and ideal value to this oil which no other fat possesses. To separate the so-called active principles from the oil is, in my opinion, to destroy the efficacy of both. It is the whole oil we need. It is the whole oil we must have.

When I had the honor of addressing this Society before on this subject, I contended that we oftentimes make a mistake in our method of prescribing cod-liver oil. I said that usually too large a dose was given. Consequently it was not assimilated, and served only to add nausea and indigestion to the other ills already present. I hold that 10 or 20 drops three times a day are the largest doses we dare prescribe in many cases. These doses may be gradually increased as the patients continue to improve. Frequently it is impossible to get an individual to take the plain oil. For this reason and also because of its easier digestion, this remedy is usually given in the form of an emulsion.

We all know that the making of an emulsion prepares the oil for digestion; indeed, some say that it is already digested when it is in the form of an emulsion. When placed in the position of deciding as to whether we will write a prescription in detail for a certain amount of cod-liver oil to be made into an emulsion or of merely ordering one of the prepared emulsions to be found in the drug-stores, I prefer the latter, because of the difficulty in finding pharmacists of sufficient skill to prepare a suitable and satisfactory emulsion. When persons have made emulsions exclusively for years they acquire a certain skill which only comes from such experience.

But it is absolutely essential that we know what we are prescribing. That is the principal objection to prescribing the preparations offered for sale. We know so little of what their constituents are. It is for the purpose of finding out what these preparations really contain that Professor Wiley and I entered upon the study of this subject. Professor Wiley has found that for the most part the claims set forth by the proprietors have been justified

[1]Read before the Medical Society of the District of Columbia, May 17, 1899.

by his examinations. The profession as well as the laity are indebted to Dr. Wiley for entering upon this work so heartily, and we owe him much for the skill, industry, and perserverance with which he has undertaken a thorough study of five or six of the preparations which are best known to us, either through representatives or through personal experience. He places before us, for reference, analyses of some of the more important preparations of cod-liver oil, and from these we can select the one to our liking.

Preparations of this kind are mostly proprietary, and their exact composition is not given on the label. There are two typical groups of these compounds. The first group consists of the true emulsion containing an approximately fifty-per-cent. content by volume of the pure oil, together with the emulsifying reagent, some glycerole, a flavoring extract usually dissolved in alcohol, and other less important ingredients. Scott's Emulsion, Ozomulsion, and Parke, Davis & Co.'s Egg Emulsion are typical members of this group. It was not the object of the analysis to determine all these bodies, but only the total non-volatile constituents, the proportion of oil, and of alcohol. The non-volatile constituents, that is, those bodies left after heating to constant weight in a vacuum at the temperature of boiling water varied from fifty-eight per cent. to sixty-four per cent. in the samples analyzed.

The purified oil in every case responded to the color tests for cod-liver oil. The proportion of oil in these samples, as has already been said, is approximately half their volume. In the samples analyzed the oil by volume varied from a little over forty per cent. to a little over forty-six per cent. The quantity of alcohol was very small in Scott's Emulsion, and ranged from this to a little over nine per cent. by volume in other samples of the first type. It is evident that this small quantity of alcohol is derived from its use as a solvent in some of the other ingredients of the emulsion. No quantitative determinations were made of the glycerole, hypophosphites, essential or flavoring oils, or other minor ingredients of the compounds.

The second type of preparations includes those in which the oily part of the cod-liver oil is removed, and the greater part of the nitrogenous and other constituents thereof is held in solution as a tincture. The principle on which the preparation of these compounds rests is that the nitrogenous bases, lecithenes, and other non-oily constituents of cod-liver oil constitute its really active principles. It is evident from the above considerations that these compounds contain considerable quantities of alcohol and only small quantities of non-volatile solids and oil. The analytical data fully corroborate this statement. Typical preparations of this class are found in Vinol, Wampole's Extract, and Stearn's Wine of Cod-Liver Oil. In these the analytical data reveal the fact that the non-volatile matter ranges from five per cent. to ten per cent.; the oil from 1.01 per cent. to 0.86 per cent.; and the alcohol from nineteen per cent. to twenty-four per cent.

The above analytical data are offered in the hope that the physician prescribing these remedies and tonics may know their general character, and thus be guided in choosing wisely those forms which are best suited to the needs of his patients.

Having noticed in some of the pharmaceutical journals statements regarding the occurrence of morphin in Scott's Emulsion, I deemed it advisable to examine the samples for this ingredient, for the profession should certainly be informed on this subject. Accordingly, two samples of 50 grams each, from a bottle of Scott's Emulsion, bought in the open market, were secured and treated as follows: Into one sample 10 milligrams of morphin, as a fine powder, were added, and the whole mass thoroughly stirred until an intimate mixture was secured. The two samples were then subjected to exactly the same treatment for the separation of morphin from the organic matter. The method followed was strictly that recommended by Wormley on page 492 and following, in his work entitled "Micro-Chemistry of Poisons." It is not necessary here to give a résumé of that method, since any one desiring to practice it can find it described in full in the place mentioned. The residues, according to the method of Wormley, were tested with two of the characteristic reagents for morphin, namely, nitric acid and ferric chlorid. In each case a brilliant reaction characteristic for morphin was secured in the residue from the sample to which the morphin had been added. In the other sample not the faintest trace of the reaction for morphin could be detected. These parallel tests show convincingly that the commercial sample contains no morphin.

CLINICAL MEMORANDUM.

EIGHT CASES OF TOADSTOOL POISONING.[1]

By WILLIAM McD. STRUBLE, M.D.,
OF TRENTON, N. J.

CASE I.—H. G., an adult, on October 16, 1898, ate freely of supposed mushrooms at 8 A.M., again at noon, and at 4 P.M. At 5 P.M. he began to vomit. He supposed this to be due to acute indigestion from overeating as he had had several such attacks before. About 10 P.M. the vomiting became so severe that he sent for me as I had prescribed for him before for a similar trouble. I also concluded his trouble to be due to acute indigestion and prescribed accordingly. About an hour later I was again summoned as he was no better. I now found several other members or the family sick, and having made more careful inquiries, found that all who had eaten of the so-called mushrooms were sick and the one who had not eaten of them was the only well one, and concluded the sickness must be due to a poisonous form of the fungus as the symptoms were too severe for a simple indigestion.

H. G. was now vomiting a large amount of watery mucus. There was no food in the vomitus, his stomach having been emptied by his previous vomiting which began at 5 P.M., nine hours after the first ingestion of the poison. Every few minutes he would vomit a mass of stringy mucus, so tenacious that it had to be whipped from his lips. He did not complain of pain, but the

[1] Read before the Mercer County, New Jersey, Medical Society.

nausea was so pronounced that I gave him a hypodermic injection of morphin and atropin, applied a mustard plaster over the epigastrium and ordered him to bed. This seemed to quiet him, and with the exception of an attack of retching every fifteen or twenty minutes, he was comfortable for about two hours, when he began to complain of being cold. His temperature was normal, but the skin felt cold; there was no sweating. His heart was quite weak, 110 per minute, and I, therefore, gave him a hypodermic injection of strychnin, $\frac{1}{30}$ of a grain, followed n half an hour by $\frac{1}{100}$ of a grain of atropin. This made him feel more comfortable, his pulse became stronger, and he dozed, with occasional waking and retching spells, until morning.

The following morning he felt comfortable but was weak. His pulse was 110, but of better volume than during the night. He was given iced champagne and white of egg in water at short intervals, with a mixture containing bismuth subnitrate and spirits of chloroform. These he retained about half the time. He was also given occasional hypodermic injections of atropin or strychnin as the pulse became weak. Toward night he seemed decidedly better, retained nearly all he was allowed to take into the stomach but complained of great thirst, and a burning in the esophagus and pharynx, and wanted large amounts of fluid, but was perfectly conscious, and seemed satisfied when it was explained to him the reason he could only receive very small quantities. His pulse was of good volume, 100 to the minute, but he was very restless. He had had no morphin during the day so was ordered a 1-grain opium suppository at 10 P.M. He rested quietly the first part of the night, though he slept very little. He had occasional retching spells, but not severe enough to cause much exhaustion. Later in the night he became very restless. About 6 A.M., forty-four hours after the ingestion of the poison, he became pulseless. The heart sounds were very weak, 130, he felt cold, his temperature falling to 96.5° F., but he was perfectly conscious.

At this time serous diarrhea developed for the first time. At first the movements were voluntary but later became involuntary. The passages were quite frequent but of very small amount. This continued up to the time of his death. He passed very little urine, but this was probably due to the amount of fluid vomited, and the very small quantities taken into the system. Hypodermics of atropin, $\frac{1}{100}$ of a grain, followed in a few minutes by strychnin, $\frac{1}{30}$ of a grain, hot applications, rectal injections of hot normal salt solution, and hot water bottles to the surface of the body, did not seem to produce any effect. These were repeated at short intervals during the day but he died about 4 P.M., fifty-four hours after the first meal of mushrooms.

CASE II.—Mrs. H.G., wife of the foregoing, 5½ months pregnant, ate of the so-called mushrooms at 8, 12 and 4 P.M. of the same day. Fifteen hours after eating the first meal vomiting began, at first contents of stomach, later watery mucus, without pain or much depression for some hours.

On the morning of October 17th she was hardly able to rise, but did not complain of pain. A few hours later her stomach began to retain albumen-water and iced champagne, her pulse improved and her condition seemed much more favorable. She appeared to be resting better than her husband who was extremely restless, while she could be roused only by an effort. At 7 A.M. on the 18th she had a very loose bowel movement which was followed by a very sharp depression of the heart. She nearly died before the nurse could get her from the commode to her bed. Her pulse was rapid, heart sounds almost imperceptible. Only a slight thready pulse could be felt at the wrist. Temperature normal. She did not complain of the cold as her husband did. Her heart did not respond to hypodermics of atropin and strychnin, and she died about forty-eight hours after the first meal of mushrooms.

CASE III.—C. G., aged six years. Amount eaten not known. He was sleeping quietly until 1 A.M., seventeen hours after the first meal, when he roused up, had a painless vomiting spell, voiding only a watery mucus. He was given warm water to encourage the vomiting, which soon stopped, and he dropped asleep. He awoke again in about one hour with another attack. This was repeated every one or two hours all night. In the morning his pulse continued good, but he was weak, depressed, and pale, Surface of body was cool, pulse 100, and of good volume. Some tendency to roll eyes upward. Vomiting stopped, retained albumen-water and iced champagne. Continued about the same through the day and early part of the following night. Later became cold and pulseless, and died from heart failure, without pain or vomiting, forty-eight hours after taking the first meal of mushrooms.

CASE IV.—Annie, servant in the G. family, ate about four tablespoonfuls of the mushrooms at 8 A.M. Began to vomit sixteen hours later. Had numerous vomiting attacks during the night. During the day retained about half the albumen-water and iced champagne given her. During the following evening and night pulse was small but fairly strong. Early on the morning of the 18th her bowels became loose, this being accompanied by severe depression of the heart. Pulse was rapid and weak, but she rallied in a few hours, responding nicely to the medication. Stomach continued irritable, bowels loose. Urine very scanty. She gradually improved during the four following days when she was up and about, and taking a fair amount of food.

CASE V.—Female child, two years old. Was given a little of the broth, but she did not like the taste and spat it out. At 2 A.M., eighteen hours later, was taken with vomiting. After half an hour the vomiting stopped. The next morning she was running about playing, occasionally vomiting. The third day, she had a looseness of the bowels which lasted about twenty-four hours.

CASE VI.—B. G., adult, ate for breakfast about two tablespoonfuls of broth from the mushrooms. Fourteen and one-half hours later he began vomiting. A hypodermic injection of morphin and atropin seemed to control the emesis, and although wakeful he was quiet through the night, with occasional retching spells. On the morning

of the 17th he complained of feeling weak, but retained nearly all the iced champagne and albumen-water given him. He continued in this condition until night when his bowels became loose, and through the night he had very frequent evacuations of a greenish-watery fluid. Urine scanty. About this time he became very thirsty, complaining of a burning of the tongue, pharynx, esophagus, and stomach, and in spite of orders took large quantities of fluids, which he vomited almost at once, but without pain. Toward morning his pulse became weak, and it was necessary to administer hypodermics of strychnin. This continued during the day. He retained a fair amount of champagne and albumen-water. The next day he was stronger and retained milk. He slowly regained his strength and on the fifth day was up and about. His bowels continued loose until this time, when the movements were formed but still contained some mucus.

CASE VII.—D. L., aged forty-seven years. This patient ate about four tablespoonfuls of mushrooms at about 4 P.M. At 2 A.M., ten hours later, he began to vomit. Vomiting was encouraged by the use of warm salt water, but was never very free. There was a constant desire to have an action of the bowels, but without result. He had no pain. The following day he retained iced champagne and albumen-water, but had occasional vomiting spells. Bowels were still irritable. He was restless through the following night, and on the morning of the 18th complained of cold and weakness. Pulse 120, soft and weak. Hypodermics of strychnin continued through the day. Complained much of thirst and burning in pharynx. Began to take milk, which he retained in small quantities, but he was very indiscreet and would take a large amount in defiance of orders, and in a few minutes would vomit it. At this time he passed a small quantity of dark red urine which was pronounced by the nurse as "possibly bloody." There was much difficulty in promoting a free action of the bowels in the case of this patient. He took several doses of magnesium sulphate and castor oil, and had rectal injections before it was considered that the action was free enough. He gradually improved, the stomach slowly became more retentive, the heart stronger, and he was dismissed from treatment on the ninth day.

CASE VIII.—H. G., aged eighteen years. Ate about 4 tablespoonfuls of the mushrooms at 9 A.M. Began to vomit at 10.30 P.M., 13½ hours afterward. Her stomach was the most irritable of any of these patients, the vomiting of a frothy mucus continuing in spite of hypodermics of morphin and atropin to the limit of safety. She received during the night of the 16th 1¼ grains of morphin and $\frac{1}{20}$ of a grain of atropin. She passed a very restless night, not sleeping any or responding to the treatment. During October 17th her stomach retained almost none of the iced champagne and albumen-water, and rejected the bismuth mixture at once. No sleep during this day or the following night. Very restless; pulse 120, full; face flushed, and she began to have signs of the physiological effect of the atropin. This was the only patient to show this, although the others received fully as much, and in some instances more. The atropin was discontinued, and the strychnin only was given. The following morning the pulse became weaker, 120, and she complained of cold. A diarrhea of a serous character set in. Her stomach still rejected nearly all that was taken. Hypodermics of strychnin continued as required, according to the condition of the heart. Toward night the stomach was less irritable, and she retained a small amount of albumen-water and champagne. Temperature 100° F. She complained of considerable pain in the lower abdomen, which was probably due to her menstruation which was due, and began normally during the night. On the 19th she was still very restless but gradually improved. Bowels still too free and contained mucus, with occasional specks of blood. Urine scanty; no albumin. Heart stronger, less rapid, and of good volume. Her symptoms slowly improved, but her stomach continued irritable, and she was under treatment ten days. Her condition was the most serious of any of the patients that recovered, and she was apparently much worse than Mrs. G. until the severe attack of heart depression caused the death of that patient.

It will be seen from a comparison of these cases that the symptoms of poisoning were in all practically the same, *viz.*: A painless vomiting, coming on from nine to eighteen hours after the ingestion of the poison, which was very free and consisted of mucus and water. This was very evidently a centric vomiting, due to stimulation of the vomiting center in the medulla after absorption, as none of the symptoms seemed to be caused by the local effect of the fungus, there being no symptoms of irritation of the gastro-intestinal mucosa. The burning and dryness in the mouth, pharynx, and esophagus, were considered due to the atropin given. This vomiting continued for a number of hours, when heart weakness or depression began, with a resultant coldness of the surface. This heart depression was relieved in five cases by hypodermics of atropin and strychnin, but in three cases, while there was a response at first, later the patients died from heart failure, being cold and pulseless for some hours before death. With this cardiac depression there began a serous diarrhea. The movements, while frequent, were small in amount, and the condition did not seem to be severe enough to cause the intense, and in three of the cases, a fatal cardiac depression. It would seem that there was a simultaneous intestinal vasomotor paralysis, thus causing a serous leaking into the intestinal cavity. With this there was no sweating, showing no involvement of the cutaneous vasomotor system. In some instances the patients complained of the frequency of bowel movements, but nothing was given to stop this action, it being considered Nature's effort to rid the system of the poison, and was encouraged by salines, castor oil, and rectal injections. In no case was there any cerebral symptoms, or coma, as described as occurring in muscarine poisoning.

Mr. V. K. Chestnut of the United States Agricultural Department, Washington, D. C., and Mr. E. B. Sterling of this city, induced the man who sold the toadstools to this family to take them to the same spot and gather some more specimens of the same variety. These speci-

mens were also picked out from a number of other species by members of the family, thus doubly identifying the cause of the poisoning. This was the *Amanita phalloides*, or death-cup. Most cases of toadstool poisoning are due to the *amanita*. There are a number of varieties of this fungus, but only three or four are poisonous. There are two prominent poisonous varieties found here, the *Amanita muscaria*, or fly amanita, and the *Amanita phalloides*. The active principle of *Amanita muscaria* is muscarine, and the symptoms of its poisoning as given in Potter's "Materia Medica" are as follows:

"Muscarine is a powerful respiratory and cardiac depressant, paralyzing the respiratory center and arresting the heart in diastole by paralyzing its motor ganglia while stimulating its inhibitory apparatus. It lowers the arterial tension, produces profound salivation, lacrimation, and sweating, contracts the pulmonary vessels, causing intense dyspnea, and increases the intestinal, hepatic, and pancreatic secretions, and markedly diminishes the renal. It causes tetanic intestinal contractions, severe colic and purging, spasm of accommodation, and contraction of the pupil. It acts as an intoxicant on the cerebrum, producing vertigo, delirium, followed by sopor, with lowered reflexes, perhaps coma, and death."

It will be noticed that atropin is almost an exact physiological antagonist to muscarine in its effects on the heart, muscular spasms, sweating, salivation, pupil, and renal secretion, and may be considered a typical antidote.

The symptoms of poisoning by *Amanita muscaria*, as described by Dr. D. W. Prentis of Washington, D. C., are as follows: "Symptoms usually begin in fifteen minutes to two hours after injection of the fungus: Colic, more or less violent, vomiting, diarrhea, contracted pupil, salivation, profuse sweating. With these are cerebral symptoms; the patient feels as if drunk and becomes violently excited; dimness of vision which may be followed by blindness; epileptoid convulsions and trismus; drowsiness with loss of reflexes; pulse slow and thread-like; respiration short and stertorous; death from progressive loss of heart power."

It will be seen that these symptoms do not at all correspond to those in the cases described, which, as they were so uniform in all the eight cases, may be taken as typical of *Amanita phalloides* poisoning, unless the fungi eaten were contaminated by other varieties, which, from the statements of the family does not seem likely. The cerebral effects, the salivation, sweating, and colic were all absent in these cases, and this seems to show that the poison is different in the two varieties and not the same, as is claimed by some.

Mr. V. K. Chestnut affirms that the poison of *A. phalloides* is not muscarine but a toxalbumen called *phallin*. He considers the symptoms of poisoning "due to a decomposition of the blood, the serum escaping from the blood-vessels into the alimentary canal, the whole system being rapidly drained of its vitality," and he gives the symptoms of phallin poisoning as abdominal pain, cramps, convulsions, and other tetanic spasms; pulse weak; nausea, vomiting, extreme diarrhea, rice-water discharges simulating cholera, and death from general asthenia. These cramps of the legs and other convulsive symptoms may be due to the rapid drain of the fluids of the blood, and the symptoms present a typical picture of cholera, apparently due to an irritant or poison causing a vasomotor paralysis along the alimentary canal and a consequent pouring out of serum. My patients did not have this appearance; there was none of the sunken eyes, hollow temples, pinched nose, or the appearance as given by Tyson of "a wasted body, long immersed in the pickling-vat of a dissecting-room." In other words, my patients died from a failure of the heart and not from a draining away of the liquids of the body.

Again, as to the statement of decomposition of the corpuscles of the blood. As a typical disease in which this occurs may be mentioned yellow fever. Here the symptoms referable to this lesion—decomposition of the blood-corpuscles—are jaundice, black vomit, black and offensive stools, bleeding from the gums and mucous surfaces, and hematuria, these symptoms being due to the escape of the altered hemoglobin. None of my patients presented any of these symptoms, and it would seem as if a different poison had been described. The symptoms given by Mr. Chestnut so closely resemble those caused by muscarine that it would seem as if that action had been described and not the effects of *Amanita phalloides*.

In looking back over these cases the following points in regard to treatment suggest themselves to me: Having a history of *Amanita phalloides* poisoning (and the length of time before the beginning of the symptoms would almost diagnose the variety of the fungus) at once an attempt should be made toward free evacuation of the poison. Tannic acid as a chemical antidote is of no use. Vomiting should be encouraged until the stomach is empty, and the bowels should be cleaned out. This seemed impossible in my cases as the vomiting was so severe. Rectal injections do not reach high enough but should be urged. If I had another case I would put two or three drops of croton-oil on the tongue at the risk of increasing the irritation as the effects of the poison are so severe and so fatal; or hypodermic injections of magnesium sulphate may be tried in order to prevent any further absorption of the poison. Having accomplished this, morphin for the vomiting, strychnin and atrophin to stimulate the heart, with possibly galvanism of the cervical sympathetic, and large subcutaneous injections of normal salt solution should be given.

THERAPEUTIC NOTES.

Hydrotherapy in Adult Pneumonia.—BARUCH ("Hydrotherapy") advocates the use of the chest compress. Three folds of old linen are measured to fit exactly the entire chest, from the clavicles to the umbilicus. To embrace the shoulders slits are cut which should meet above. Two such jackets and two pieces of closely woven thin flannel of the same shape, but an inch larger in all directions, should be provided and fitted. One of the linen compresses is rolled up, soaked in a basin of water at 60° F., and wrung out so that it remains quite damp without

dripping. The flannel is now spread upon an even surface and the wet compress is put upon it. Both are then rolled together half way. The patient, who must not be allowed to exert himself, is turned upon the left side. The compress is so placed upon the bed that the rolled part lies in close proximity to the left side and the lower edge of the left slit is under the left axilla. The patient is then gently turned upon his back and the compress is unrolled. Both edges are brought forward and made to envelope the chest snugly. The flannel cover, which has been allowed thus far to lie upon the bed, is then brought forward, and the whole is then secured by two safety-pins in front and one over each shoulder. The compress should be changed every half hour, unless the temperature is below 102.5° F., every hour unless the temperature is 99.5° F., when it should be discontinued. The compresses are thus applied in rotation, day and night, unless the patient sleeps. A compress should be thoroughly rinsed before it is rolled up for soaking. The temperature of the water should be lower than 60° F. should stupor, or muttering delirium, or cyanosis or bronchi blocked by secretions be present. The chest of such a patient should receive one or more dashes of colder water before the removal of each compress. Water at a higher temperature than 60° may be used if there is much jactitation, insomnia or excitability. Here the compress, moistened more thoroughly before application, may remain two hours, thus converting it into a soothing fomentation that is not relaxing like a poultice.

Treatment of Pleurisy.—Pain requires the use of morphin hypodermatically or by the mouth *pro re nata*, for the first few days. Poultices give relief in mild cases. Blisters should not be used, if at all, until febrile symptoms have practically disappeared. Effusion is not likely to be dissipated by digitalis and iodid of potash; sodium salicylate in full doses (with from 2 to 3 grains of caffein citrate added to each dose if the heart action is weak) will be found more effectual. Do not aspirate during the acute stage unless the symptoms are urgent; inflamed surfaces would thus be brought together, with adhesion and increased irritation resulting. If possible, wait until the second or third week before aspirating. Irrigation by submersion in a bath at a uniform temperature of 100° F. is advocated in empyema. Any antiseptic may be put into the water, *e.g.*, saturated solution of boric acid, which is, however, expensive. Plain water, previously boiled, should answer. The entire body should be submerged for several minutes after expiration gives out clear water, from ten to twenty minutes. The pus will drop to the bottom of the tub. At first bathe daily, then every other day until recovery. At the stated temperature there will be no chilling.—"International Medical Annual," 1899.

Antitoxin in Diphtheria.—The syringe should invariably be sterilized immediately before being used. It is preferable to inject into the abdominal cellular tissue. (Jacobi, "Twentieth Century Practice of Medicine," vol. xvii.) According to the severity of the case 600, 1000, 1500 or 2000 units should be injected. The dose should be repeated unless the symptoms, both constitutional and local, be improved in from twelve to twenty-four hours. If necessary, patients two years old and over may be given at the earliest possible moment 2000 units, after from twelve to eighteen hours 2000 more units unless there is an improvement, and the same dose twenty-four hours after the second dose if there be still no improvement. Patients under two years may receive from 1000 to 1500 units. Early injection is necessary; the prognosis is impaired by procrastination. It is better in doubtful cases to inject even before the diagnosis is established. In addition to antitoxin, other treatment, both general and local, should be employed.

Treatment in Myxedema.—The condition of the kidneys, heart, skin, etc., must be carefully considered (Anderson, in "Contributions to Clinical Medicine"). The patient should be kept in an equable temperature. The food should be nourishing. Strychnin, arsenic, and iron may be used separately or in combination. The hair should be shampooed daily for half an hour. Every three days in rotation diaphoresis should be promoted as follows: On the first day a vapor bath. On the second ¼ grain of pilocarpin hypodermically. On the third day a hot, electric bath for half an hour followed by vigorous friction. From time to time this diaphoretic treatment is omitted for a week. Thyroid extract should be given by the mouth, *not* subcutaneously. If the latter method is employed abscesses, with resulting constitutional symptoms, tonic spasm, loss of consciousness, etc., are apt to result.

The gland itself, may be taken, or a glycerin extract may be administered. But the most convenient form is that of the desiccated thyroid either as a powder, tablet, or in capsule, such as a number of firms now prepare. Two grains of the desiccated powdered thyroid prepared by Parke, Davis & Co. are equal to 5 grains of the fresh gland, the ordinary sheep's thyroid weighing about 24 grains. The dose of this preparation is about 1 grain; and this dose is gradually increased until about 6 grains a day are reached. Then we stop and watch the effect of the dose for some days. If we have not overdosed on the one hand or if, on the other, the patient is not improved, we further gradually increase the dose up to 15 grains (no more) of the dried glands daily in divided doses. Overdoses of the thyroid produce violent headache, feeble heart action, and sometimes diarrhea and vomiting. Should these symptoms appear we stop the use of the drug for several days and return to its use gradually. The patient should be kept in bed for a few days after treatment is begun. After apparent cure the thyroid gland must be taken indefinitely, either in minute daily doses or in full doses for several days at the end of three weeks or a month. The latter plan is said to be preferable although more disagreeable. The diet should be largely vegetable.

Uses of Hypnotism.—Hypnotism is as yet of little service to the physician (Church, in "Nervous and Mental Diseases," by Church and Peterson). Now and again a minor operation may be done under its influence, saving the slight risk of surgical anesthesia, or by its aid a fixed

idea may be removed and a delusion expelled. Under ordinary circumstances the number of susceptibles is so small that its general use is impossible. In hysteria, as elsewhere, it is a two-edged weapon, and the patient may emerge from hypnosis instituted for a minor difficulty and go into severe hysterical convulsions. One delusion may be removed, but another and more serious one of mind reading or undue influence may be implanted. For obvious reasons, women should never be hypnotized without reliable witnesses, and the public use of hypnotism can only appeal to the morbid. In this connection its power for harm is proven. There is no doubt that its frequent repetition is harmful to the individual. It tends to destroy self-reliance and to make patients imaginative, weak-minded, and neurasthenic. It has also a tendency to bring discredit upon its employer, and in most instances would better be substituted by measures of equal efficiency and less disadvantage. Suggestion, however, is a mighty aid to the physician, and, without producing hypnosis, positive and intelligent assertion can accomplish all that is likely to be done by hypnotism short of the somnambulistic stage.

Treatment of Rheumatism in Children.—For pain ammonium salicylate should be used largely diluted. If this cannot be borne, antipyrin, phenacetin or lactophenin in small doses may be given. To produce alkaline effect use calcium or magnesium hydroxids, *e.g.*, milk of magnesia. Rest in bed will help to prevent endocarditis (Braithwaite's "Retrospect," vol. 118).

Treatment of Influenza in Children.—("Cyclopedia of Diseases of Children," vol. v.). Rest in bed until convalescent is essential. The course of the primary infection cannot be shortened by medication. Distressing symptoms must be relieved and the strength must be sustained. At the outset a mild cathartic of calomel and soda should be given. This should be followed by a diaphoretic of spirits of nitrous ether and liquid Dover's powder. For headache, nerve symptoms, and muscular pains give phenacetin in 1-grain doses to a child two years old, repeated every hour for two or three doses. Codein may be added. For high fever use tepid baths. Quinin may be given throughout the disease in moderately full doses, unless there be marked gastro-enteric disturbance. For the cough, codein may be used during the first days; later cod-liver oil and creasote may be employed. Local treatment of the nose is essential. Seiler's solution, diluted three or four times, or a normal salt solution should be used to irrigate the nose and throat two or three times a day. Prostration is best met by alcohol or strychnin. Convalescence demands a careful tonic treatment. Change of climate hastens the return to health.

Treatment of Chlorosis with Dyspepsia.—For the form of chlorosis exhibiting anorexia, flatulence, and vomiting, contraindicating the ingestion of much food, THIBAULT of Angers recommends a strict milk-diet for days or several weeks. Solid food is then to be given continuously for some time, using only eggs, then white meat, and boiled fish. Milk is continued, and coffee and wine are prescribed. No iron is administered until all gastric pain has disappeared. Small doses are then generally tolerated and induce rapid improvement. The protoxalate (gr. 2½) combined with the same amount of powdered rhubarb can be taken twice daily at mealtime in a cachet. If this disagrees, 3 grains of phosphate of soda should be taken at the same time, and hydrochloric acid prescribed after the meal. In case of intestinal sluggishness the following pill is useful:

℞	Ferri et potassii tartrat. . .	gr. xlv
	Pulv. nucis vom.	gr. x
	Pulv. fol. belladonnæ . . .	gr. iiiss
	Pulv. aloes	gr. xv
	Ext. gentian	q. s.

M. Ft. pil. No. XX. Sig. Two pills a day.

For Lead Colic.—

℞	Ext. belladonnæ alcohol. . . .	gr. v
	Ext. nucis vom.	gr. iiss
	Ext opii	gr. v
	Pulv. radicis et Ext. glycyrrhizæ	q. s.

M. Ft. pil. No. XXX. Sig. One pill two or three times a day.—*Leyden.*

For Diarrhea in Children.—When the food is passed in a state of partial digestion, SIMON advises that the meat, cooked vegetables, and eggs, included in the child's dietary, be reduced to a pulp before feeding. He prescribes as follows:

℞	Tinct. nucis vom. . . .		*m.* viii
	Tinct. rhei Tinct. calumbæ }	aa . . .	*m.* xxx
	Tinct. cinchonæ		*m.* lxxx.

M. Sig. Five to 10 drops in water or wine of cinchona before meals.

For Anorexia of Pregnancy.

℞	Pulv. rad. calumbæ Pulv. rad. zingiberis }	aa . . .	℥ ss
	Fol. sennæ		ʒ i
	Aq. bull.		Oi.

M. Ft. infus. Sig. A small glassful before each meal.

To Prevent Loss of Hair.—

℞	Acidi acetici		*m.* lxxv
	Tinct. pilocarpi Tinct. cinchonæ Tinct. rosmarini }	aa . . .	ʒ vi
	Rum		℥ iss
	Aquæ	q.s.ad.	℥ vi.

M. Sig. Rub into scalp.—*Brocq.*

It may be advisable to dilute further in case of a sensitive scalp.

For Nervous Headache and Hemicrania.—

℞	Methylene blue (Merck) Myristicæ }	aa . .	gr. x.

M. Div. in pulv. No. VI. To be put up in capsules. Sig. Two or three capsules a day.—*Lewy.*

The headache may yield to one dose, or the patient may be relieved from subsequent attacks by several days' treatment.

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SATURDAY, MAY 27, 1899.

THE ROENTGEN-RAYS IN THORACIC DIAGNOSIS.

The Röntgen-rays are steadily coming into more constant use by the great experts in physical diagnosis, in the recognition and differentiation of intrathoracic conditions. Last year at the meeting of the German Medical Congress Dr. Schott of Nauheim demonstrated by a series of most careful skiagrams that even our knowledge of so delicate a subject as heart dilatation could be greatly aided by this new diagnostic method. In the proceedings of this year's German Medical Congress, an abstract of which appeared recently in the Medical News, it will be seen that the distinguished heads of German clinics frequently turn to the X rays for help in conditions that were formerly supposed to be fully revealed by older methods of physical diagnosis.

In the diagnosis of aneurism practically all authorities are agreed that the Röntgen skiagrams are of the greatest service. In cases in which there are suspicious symptoms in the thorax, and especially if there is any, even the slightest, reason to suspect aneurism of the descending aorta the X-rays are a most reliable adjuvant.

There are heart conditions in which a series of skiagrams furnish information that is of the greatest value for prognostic as well as diagnostic purposes. This, to be sure, is the more exact and delicate side of the application of the Röntgen rays, and one that requires special training, but the time spent in acquiring the technic for thoracic diagnosis cannot fail to be profitably expended—a fact that will become more and more apparent in the near future.

ENGLAND'S INEBRIATE ACT OF 1898.

The passage of a new Vaccination Act by the British Parliament, and the heated discussions as to the preventive value of vaccination carried on by physicians and members of antivaccination leagues, have quite obscured another British law which may lead in time to far more important measures than compulsory vaccination or its neglect. The law in question enables a judge to commit to a suitable institution a man or woman who has been four times within a year arrested for drunkenness, or who has while intoxicated performed a crime of a certain degree. In the latter case his commitment for drunkenness does not relieve him of punishment for the crime done. Such detention in a reformatory shall be for an indefinite period, not exceeding three years.

This act went into effect January 1st, and it is still too soon to say what the effect of it will be. The recognition of drunkenness as a cause for the removal of a man from association with his fellows is a new and important departure in law. Theoretically a man who becomes intoxicated periodically is wanting in self control. A man who while drunk commits serious crimes is dangerous to society. But whether the greatest good to the greatest number will be brought about by the detention of such persons in special institutions will depend not a little on the ability of such detention to cure the tendency to drunkenness. At any rate, this classification of drunkenness with insanity will help to educate public opinion as to its real nature, a lesson which is needed still in both England and America, though perhaps more in the Old Country.

SPECIFIC TREATMENT FOR TUBERCULOSIS.

The New York County Medical Society, at its recent meeting, reported in our columns this week,

discussed the subject of adjuvants or auxiliaries to the climatic treatment of pulmonary consumption. It is evident that specialists in the treatment of this dread disease are still hopeful that some specific pharmacal or biologic remedy for the affection will certainly be discovered. The hope is shared very generally, by the younger specialists at least, in Europe. The present writer remembers distinctly with what assurance Professor Lesser of Berlin, about a year ago, in a clinic on lupus vulgaris, spoke of his confident expectation that a specific for tuberculosis quite as powerful against the lesions of that disease as is mercury against syphilitic processes exists and only awaits discovery.

The prospect is an alluring one and certain recent tendencies in microbiology rather confirm the hope of its fulfilment. Syphilis is now very generally considered a microbic disease and it is conceded that at least the major part of the action of mercury in the disease is due to its antiparasitic or bactericidal character. Against the syphilitic germ mercury has a selective action, and this specific growth-inhibiting or prohibiting action is not without analogies in modern microbiology. Nitrate of silver has a corresponding action upon cultures of aspergillus. This fungus will not grow if to the culture-medium is added scarcely more than the minutest trace of the silver-salt. A larger proportion than is necessary to produce this inhibition of even such strong drugs as the mercurial preparations are readily dissolved in the serum and tissue juices of the human organism without disturbing the economy, and are actually thus held in solution during the giving of a mercurial course of medication.

On the other hand there are those who claim that the action of mercury in syphilis is not specific because bactericidal but because it is a tissue stimulant of the first rank. From their standpoint it is questionable whether we should look with any confidence to the prospect of a specific medicament. Even during the last twenty-five years, while therapeutic observations have supposedly been gathered with more care and judgment than ever before in medical history, a series of new remedies for phthisis have been triumphantly introduced, quite generally used for a time, and then given up or allowed to sink into innocuous desuetude. Even the remedy at present so universally prescribed in America, creosote, has lost most of its popularity abroad. It is used very little in the foreign hospitals and clinics. Some time ago Eichhorst of Zürich, after a serious painstaking trial of it in his wards for more than two years, said that he could not persuade himself that he had ever seen any advantage accrue from its administration. In the last edition of his text-book, 1897, he recommends only ordinary tonic and stimulant treatment for tuberculosis.

The maxim, *primum non nocere*—be sure to do no harm—obtains very forcibly in the use of new drugs, and the slightest sign that a remedy is interfering with general nutrition by disturbing the appetite or the digestion, as is not infrequently the case with creosote, must be the signal for its withdrawal. Some of the newer remedies mentioned may prove, on further trial, to have specific virtues, meantime one thing is sure, that so long as they continue to bear the stamp of novelty the strong psychic element that enters into all novel therapy of tuberculosis will cause practically all cases primarily to improve under their administration. Due allowances must be made for the suggestive element. The local treatment of lesions whether tubercular or not of the nasopharynx and larynx, the endeavor to keep the digestive tract at its acme of healthfulness for nutritional purposes, respiratory exercises, and hydrotherapy, all these judiciously employed mollify the annoying symptoms, increase constitutional vigor, give tone to the general system, and encourage the hopefulness of the patient.

ECHOES AND NEWS.

Ambulances Sent to the Philippines.—Quartermaster-General Ludington has shipped to Manila fifty ambulances for use by the American troops.

A New Editor.—Dr. Emil Mayer of New York City has been appointed co-editor for America of the *International Centralblatt für Laryngologie und verwandte Wissenschaften*, of which Sir Felix Semon of London is editor-in-chief.

Laws as to "Faith Healers."—Commissioner William T. Jenkins of the New York City Health Board has conferred with counsel of the New York County Medical Society with a view to framing amendments to the law so that the faith-curists can be more promptly and successfully reached.

Tuberculosis Congress at Berlin.—The American delegate to the Tuberculosis Congress, Dr. Von Schweinitz

has arrived in Berlin. Baron Hoyl Zu Hoornhein, the National Liberal member of the Reichstag, donated on May 15th three million marks toward the tuberculosis asylum movement.

Professor Virchow on Disarmament.—Professor Virchow, who is not only an eminent physician, but who is also an intellectual leader of German liberalism, believes that disarmament will sooner or later be realized. He considers that the realization will come slowly, for the age we are now living in is little favorable to humane ideas, and public opinion is weak, almost decrepid.

The Penalty for Food Adulteration in France —Alphonse Karr's once famous epigram "I poison the grocer—guillotine; the grocer poisons me—ten francs" has been outgrown, according to *Food and Sanitation*, for, besides paying his ten francs, the grocer now has to post in two places in his shop large placards announcing the fact that he has been convicted of food adulteration. These interesting souvenirs are kept in place for many months.

The Utility of Gargling.—A German physician has made some experiments to determine the value of gargling. The velum, a portion of the tongue and the tonsils were dusted with wheat flour and a gargle in which iodin was mixed with glycerin was used by the patient. It was found after gargling that the velum and the tongue exhibited the blue color of the reaction on the starch, but the flour on the tonsils was neither colored nor washed away.

New Woman's Hospital.—The Woman's Hospital at Forty-ninth street and Lexington Avenue, New York City, is to be torn down and to be replaced by a six-story building of the French Renaissance style. It will be of granite and is designed to accommodate 200 patients. There will be five large wards. The operating-room will be the largest in New York. Six hundred thousand dollars will be expended on the building and more than a million upon its equipment.

The Spallanzani Centenary.—On May 15th in Reggio Emilia, Italy, the one hundredth anniversary of the death of Lazzaro Spallanzani was celebrated by a grand *festa*. Spallanzani was a strenuous opponent in his day of the theory of spontaneous generation, defending biogenesis against such men as Buffon. He was expert in the use of the microscope and was the first to demonstrate the phenomena of the circulation in warm-blooded animals. His researches on the egg of the chick called attention to the fact of how much there might be found of embryological importance in this simple, easily procurable material.

Sunshine and Rain in Europe.—According to a recent report issued by the French Bureau of Agriculture, at 78 Rue de Varennes, Paris, Spain and not Italy should have the adjective "sunny" placed before it. On the average, it is said, Spain enjoys about 3000 hours of sunshine a year, while Italy has 2300. France has almost as much sunshine as Italy, her figures being 2200. Germany has at her disposal no more than 1700 hours; while England, the land of fogs, has to get along with 1400, less than half of Spain's amount. The average fall of rain in England is, however, greater than that of any European country.

University of Michigan Medical Department.—The annual commencement of the University of Michigan will take place on June 22d. Besides the usual ante-commencement ceremonies, the medical department will have a special program for its friends and the alumni, an unusual number of whom have signified their intention of being on hand. All the laboratories will be open on the 19th, 20th, and 21st, demonstrations will be made on special subjects in anatomy, histology, pathological anatomy, pharmacology, bacteriology, and medical electricity, and clinics will be given in each clinical branch. These exercises will not interfere with those of the general program or with each other.

The American Electrotherapeutic Association.—The ninth annual meeting of this Association will be held in Washington, D.C., on September 19, 20, and 21, 1899, under the presidency of Dr. F. B. Bishop of Washington. Quite a number of papers of great scientific value have been promised and the Committee of Arrangements insures the members a very entertaining and pleasurable meeting. Aside from the sessions of the Association the Committee has completed arrangements for a trip to Mt. Vernon, one to Arlington, and several other social features. The headquarters of the Association will be at Willard's Hotel, where special rates will be given to members and their families during the meeting.

Increasing Duration of Life in Chicago.—The April Bulletin of the Chicago Board of Health makes the following startling announcement: "Measured by the average age at death of all who died in the City of Chicago thirty years ago and of those who died last year, the average duration of life in this city has more than doubled during a single generation. That is to say: In 1869 there were 6488 deaths recorded, with the age of each decedent given. The aggregate of the ages footed up 90,336 years, or an average of 13.9 years for every individual decedent, old and young. Last year there were 22,897 deaths similarly recorded, with an aggregate of 672,540 years of life, or an average age for each decedent of 29.4 years. This is an increase of 111.5 per cent.

Meat Extracts of Vile Origin.—The *Lancet* of April 22d comments upon revelations which have recently been made concerning the preparation of meat extracts from filthy material such as putrid livers and offal. Modern chemistry has unwittingly placed at the disposal of those who prepare meat extracts in this manner deodorizers and subtle flavoring materials which disguise the substances from which these extracts are made. The *Lancet* considers that a system of control should be established by the State so that extracts might from time to time be subjected to chemical and bacteriological examination. Possibly many cases of gastro-enteric disturbances, the etiology of which has not been discoverable, may have been due to the ptomains generated in such preparations.

The "Koch Lung Cure" Establishment.—President Murphy of the New York City Board of Health will investi-

gate the "Medical Council and Koch Lung Cure Establishment" at 48 West Twenty-second street. This concern advertises extensively in the German newspapers, professing to cure "catarrh, all pulmonary diseases, diseases of the eye and ear, diseases of women, tumors, and cancers." It has advertising offices in Chicago, Boston, and Philadelphia. Complaint has been made by a woman whose husband was dying of consumption that a bottle had been given this patient, which, the doctor told him, cost $9 in Germany, and which, upon analysis, was found to contain three minims of chloroform to two ounces of water, and to have a market value, including the bottle, of 9 cents.

The New York State Board of Charities —Inspector of Almshouses Henry D. Kerr, was detailed on May 15th by the State Board of Charities to act as deputy superintendent of State and alien poor in New York City and vicinity. The incorporation of the Society for the Relief of Incurable Cancer in New York City has been disapproved by the Board, the proposed incorporators not having shown to its satisfaction the desirability of the establishment of such an institution. Robert W. Hebbard the secretary of the board, has been authorized to represent the President, William Rhinelander Stewart, during the latter's absence in Europe, in the preliminary work of arranging, in conjunction with a representative of the Comptroller, for the classification of positions in the State charitable institutions and the grading of salaries of their officers and employees.

International Congress of Gynecology and Obstetrics.— The third International Congress will be held at Amsterdam, August 9, 1899. The leading questions for discussion will be the following: (1) The surgical treatment of fibromyoma. (2) The relative value of antisepsis and improved technic for the actual results in gynecological surgery. (3) The influence of posture on the form and dimensions of the pelvis. (4) The indications for Cæsarian section compared with that for symphysiotomy, craniotomy, and premature induction of labor. Doyen, Howard Kelly, and Shauta will open the discussion of the first question; Bumm, Richelot, and Lawson Tait the second; Bonnaire, Pinzani, and Walcher the third; Leopold, Pinard, Pestalozza, and Fancourt Barnes, the fourth. Dr. J. D. Emmet, 91 Madison Avenue, New York, is the secretary for America.

An Army Vaccine Farm.—General Guy V. Henry and the medical officers serving under him are to be praised for their very efficient work in Puerto Rico. They have stamped out a threatened epidemic of smallpox, and have rendered that disease almost a nullity upon the Island. The surgeons put into operation a vaccine farm, produced their own vaccine, divided up the island into five districts, established vaccination stations in every village and city of any size, and vaccinated practically every Puerto Rican —some 850,000 people in all. The vaccination was practically compulsory, for the order was that people who were not vaccinated could not enter any public conveyance or public place. The population generally took very kindly to the measure. The cattle-owners on the Island lent their cattle to the surgeons for the purpose of producing the virus required.

Society for the Abolition of Vivisection.—Some of the members of the Liverpool Antivivisection Society, considering that the English National Antivivisection Association is not radical enough in its aims or drastic enough in its program have formed a branch of the British Union for the Abolition of Vivisection. The first annual meeting of this branch has just been held and the chairman dilated at great length upon the peril to society that all and every part of the practice of vivisection had become. The speeches made by eminent men at the opening of Liverpool School of Tropical Diseases were referred to with disapproval and the Union's opposition to every form of experimentation on animals or to any arrangement between antivivisectors and experimentors, even in the matter of giving hospital charity loudly proclaimed. The Liverpool correspondent of the *British Medical Journal* says that now that this society has thrown off the mask, it would be as well if it would style itself the Society for the Abolition of Medical Education.

Cancer Hospital in New York City.—*A propos* of a recent newspaper discussion, the directors of the New York Skin and Cancer Hospital have issued a statement designed by them to correct a wrong impression regarding the purposes and work of their institution that may have been made by the recently published appeals for funds to establish and support a home for cancer incurables. They declare that admittance to their clinics or general wards is in no case conditional solely on ability to pay, nor is a patient ever discharged for mere inability to pay. The Skin and Cancer Hospital is a free institution for the treatment of cancer as well as skin diseases. By far the greater number of the patients pay little or nothing for their board. There are no facilities, however, for receiving sufferers from cancer who are presumably or demonstrably not susceptible of cure or betterment. It is their especial purpose to pursue the scientific study of cancer with a view to removing the present deadline of incurability. Inoperable cases are objects of relief and study, and constitute a large number among the absolutely free patients. The hospital would cheerfully undertake the supplemental work of providing wards for incurable patients did their finances justify it in so doing. The directors point out that their institution is the proper organization through which to extend comfort to hopeless cases.

Obituary.—Dr. William H. McEnroe of 145 West Eighty-second street, New York, died suddenly at his home May 17th, of acute indigestion. He also suffered from heart trouble. Dr. McEnroe was apparently in good health, and before retiring at midnight ate luncheon. Shortly before 2 o'clock he became suddenly ill and died before medical aid could reach him. —Dr. Joseph W. Stickler of Orange, N. J., a leading lung specialist, died suddenly May 18th at the Fifth Avenue Hotel, New York, of heart disease. He was born in 1854 in Hoboken, and went to Orange in 1858.

He was graduated from the College of Physicians and Surgeons in 1879. Dr. Stickler took the only prize ever given by the New Jersey State Medical Society for the writing of an essay, the subject of which was "The Climatology and Diseases of Essex County." He was President of the Young Men's Christian Association of Orange for two years, and a member of a number of medical societies in New Jersey and New York. He leaves a wife and one child.—The body of Dr. Robert Storer Tracy, who had been missing since the night of April 1st, has been found in the Saranac River. He had incipient phthisis, and was an inmate of Dr. Trudeau's sanatorium in the Adirondacks. Dr. Tracy was a son of J. Evarts Tracy, Esq., of the law firm of Evarts, Choate & Beaman. He was twenty-seven years old, a graduate of Yale and of the College of Physicians and Surgeons of New York City, and had been an interne in the New York Hospital and in the Sloane Maternity Hospital.

English Tribute to Major-General Leonard Wood, M D.—In the MEDICAL NEWS of April 15th our London correspondent said that, now that the Sirdar has gone back, General Wood is decidedly the popular hero in England. A striking confirmation of this bit of news and of the opinion that General Wood's magnificent official success in other spheres was especially due to his medical training is afforded by an article in the succeeding week's number of the *British Medical Journal*. "The career," the writer says, "of Major-General Wood, the United States Volunteer Military Governor of the Province of Santiago de Cuba, is one of interest to members of the medical profession, as he is a conspicuous example of the special fitness for organizing an administrative work under new conditions which seems to be developed in a remarkable manner by medical training. * * * Perhaps more than any other man who played a prominent part in the war between Spain and the United States, General Wood has impressed his individuality on the minds of his countrymen as a strong man who can be trusted to do effectively whatever work may come in his way, whether it be treating a colic or governing a conquered province." The same authority characterizes his work at Santiago after the war was over in the words of a correspondent of *McClure's Magazine* as "the *tour de force* of a man of genius, for in the harder, more fundamental tasks that confronted him here General Wood had had no previous experience." This thorough-going appreciation of the work of our American medical hero cannot but be cordially welcome to members of the profession in this country.

Medical Department at Manila.—Surgeon-General Sternberg made public on May 13th a report by Major Henry Lippincott, Chief Surgeon at Manila, of the operations of the Medical Department in the Philippines, from February 4th to March 31st. With the former date began a prolonged series of engagements with the Filipinos, and from that time to March 31st, 182 United States soldiers were killed or died from wounds received in action. The number of wounded during this period not included in this number was 847. It is noted that "the effect of the firing was marvelous on the sick," many men who were hardly considered well enough for duty, leaving the hospital for the firing line. The medical staff were prepared for all emergencies. The first-aid packages proved of the greatest possible value. "Litters, pouches, and medical and surgical chests were in readiness, easily prepared articles of food, stimulants, and water were on hand, and the ambulance company did excellent service." The signal corps, by putting the hospitals in communication with the troops at the front, made it possible to send supplies at a moment's notice. The hospitals were supplied with an abundance of everything essential, "which was simply astonishing when the great distance from the United States was taken into consideration." The Corregidor Hospital, which is used for convalescents, has been of great benefit. Cases of typhoid and malaria have done well there, but patients suffering from dysentery and diarrhea, though improved, have rarely been cured. Rheumatism is obstinate in the climate of the Philippines. The total number of cases of smallpox up to March 31st was 151; deaths 77. There were 85 cases of varioloid with no deaths. There is "every reason to hope for a cessation of smallpox." The food-supply has been good. Two hundred and fifty-six wounded Filipinos, among whom were four women, were received into the hospital up to March 31st. Of these forty-five, including one woman, died. "These people receive the best of care and treatment and seem to appreciate the efforts made in their behalf." Among the Filipino wounded suppuration is the rule, whereas, among our soldiers it is the exception. Many causes account for the condition in the former, the chief being infection before coming into the hands of our surgeons. They have, moreover, an inordinate propensity to tear off dressings and finger their wounds when opportunity offers."

CORRESPONDENCE.

THE PURSE-STRING METHOD FOR TONSILLAR HEMORRHAGE.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—In your issue of May 20, 1899, page 619, my friend. Dr. Dawbarn, makes a passing criticism of mine (the matter has never even been alluded to in my lectures) the basis for an interesting exposition of his method of arresting obstinate tonsillar hemorrhage by means of a purse-string suture.

My first thought when reading the article was, Has the doctor ever seen a case of urgent, profuse, tonsillar hemorrhage?—probably, but it certainly was not the one that he describes, the only case, be it here said, in which he has practically demonstrated the application of his method for arresting hemorrhage.

A patient who *can* be anesthetized, deliberately placed in a recumbent position, with the bleeding tonsil uppermost, so that the blood obligingly and conveniently runs away by gravity from the surface that the operator wishes to see while he four times introduces, in a locality rather difficult of access, the needle, which places the constrict-

ing "purse-string" about the stump, is *not* a case of severe, profuse, tonsillar hemorrhage, such as I had in mind when I said, and now repeat, that I believe the "purse-string" method which certainly requires toleration, time, and deliberation, is impracticable, even impossible, of accomplishment in urgent cases.

Some years since I amputated with the bistoury a tough, hard, hypertrophied tonsil in an adult (the doctor is right in saying that these are the ugliest cases of bleeding--I add, *if* they do bleed, which is not certain). Immediately there was a profuse gush of blood—so rapid was its flow, so great its quantity, that the patient's fauces, pharynx, and mouth, quickly filled and refilled; the blood ran freely into his larynx and trachea, causing violent cough, which spattered blood widely, and dyspnea of such distressing grade that the strangling, half-suffocated and altogether frantic man fought me off wildly, and rushed about the room, gasping for breath, while throwing out mouthfuls of blood and more than once vomiting it in quantities.

To seize him by the hair, force him downward into a chair, shout for assistance to my dispensary collegues, crowd open his mouth, despite his struggles, compress the tonsillar wound "between the forefinger on the stump and the thumb outside" and thus control the situation, was the work of but a few rapid, exciting moments. In a short time he became faint, fainted, and the bleeding, as is so often the case, then ceased, not to recur. Was this an instance where the "purse-string" method could have been adopted?

There are other cases, instances of moderate hemorrhage, so called "obstinate" cases, in which, from the nature of the wound alone, its location, its depth, and other complicating circumstances, I believe that a purse string suture would be useless in controlling the bleeding even if it could be applied, which I doubt in such cases; also I have found simpler measures than the "surgical suggestion" of Dr. Dawbarn (see description, page 620) to usually answer the purpose, quickly and efficiently.

Unfortunately for all, patient and physician, the bleeding tonsillar-stump is not always as conveniently and favorably shaped and located and as easily reached as in the diagrammatic sketch accompanying the article. The operation upon paper is ideal.

Yours truly,

GEORGE M. LEFFERTS, M.D.

212 MADISON AVENUE, NEW YORK,
May 23, 1899.

OUR LONDON LETTER.

[From Our Special Correspondent.]

COLONY FOR EPILEPTICS AT MANCHESTER—MILK FROM A SEWAGE-FARM—OPENING EXERCISES AT THE LONDON POLYCLINIC—REPLACING THE END OF A NOSE—AGAIN THE CANCER PARASITE—TAXATION OF THE COLLEGE OF SURGEON'S LIBRARY—ANGLO-AMERICAN HOSPITAL IN ROME.

LONDON, May 13, 1899.

THE example set by America in the Craig and Gallipolis colonies for epileptics has by no means been lost over here. The method had long been advocated upon theoretic grounds, and just recently the local authorities of Manchester decided to establish a colony and purchased an admirably situated farm for the purpose. Now, however, comes the discouraging news that the municipal council of the neighboring city of Liverpool has blocked the whole scheme by objecting to such use of the ground chosen, on the plea that it will result in the contamination of their water-supply. Of course, if an interest of such vital and paramount importance is really involved the colony must at once seek another site, but it is a little difficult to see why the colony would be worse in this regard than any other farm now on the watershed, and also why such a serious infringement of Liverpool's plain rights could not have been noticed and protested against before the land was actually purchased by a public body. Indeed, when it is remembered that the feeling between the two cities is even livelier than that between Chicago and St. Louis, or Buffalo and Cleveland, one cannot suppress a half suspicion that personal jealousies may have something to do with this apparent hygienic sensitiveness.

Another local sanitary war which is attracting a good deal of attention, is raging near Aldershot. The sewage from the great military camp of instruction there is pumped upon a sewage-farm of the most approved modern type, which bears such enormous crops of ryegrass that there is difficulty in finding a market for it. To utilize this surplus product a dairy which should supply the camp with milk was established, but when this applied to the local Urban Council for a milk-permit, as required by law, that sapient body refused it on the ground that milk from grass grown on sewage-farms could not be healthy. This wise pronouncement, however, was found to have been inspired by the local dairymen, who have been driving a large and profitable trade with the camp, and who have now succeeded in actually getting the trumpery charge before Parliament and a solemn commission appointed to investigate their ridiculous claim. Sewage that has been split up and digested three times, first by the soil-bacteria, then by the grass, and finally by the cow, passed through three stomachs in fact, is about as dangerous as a homeopathic dilution of the thousandth potency.

The Prince of Wales has appointed as delegates to the Berlin Congress for the Prevention of Tuberculosis, Sir Herman Weber, Malcolm Morris, Alfred Hillier, and C. Rube.

The London Polyclinic was formally opened with a *conversazione*, on Monday evening, May 1st. The clinical lecture-rooms, library, reading-room, and laboratories were open for inspection, with a large display of pathological specimens, drawings and photographs, and were well filled with visitors all the evening. The clinical demonstrations three times a week have already begun, as have the formal lectures and practical courses. All members of the profession visiting London are cordially welcomed at the clinical demonstrations and to the use of the Information Bureau.

The successful conclusion of a rather unusual piece of surgery has just been demonstrated by the most conclusive of proofs, a photograph of the face of a man, the tip

of whose nose had been replaced and sutured after complete separation. The case was reported a couple of months ago in the *Lancet* by Dr. Abbot Anderson. The patient had been his own executioner by the famous "whittling-toward-yourself" stroke of his own knife, against which all good little boys are warned. Dr. Anderson fortunately arrived promptly, picked up the *disjectum membrum* and carefully adjusted and sutured it, with the result that the photograph shows an apparently perfect nose, upon which the line of union can scarcely be made out.

And again the cancer parasite is to the fore. Dr. William Russell appears in the *Lancet* with a triumphant "I told you so," to the effect that the "fuchsin bodies," discovered and described by him in cancerous growths several years ago are identical with the organisms of Plimmer, and were originally regarded by him as yeasts, but in deference to the then prevailing opinion were described as sporozoa. What makes this naïve confession of unreliability the more amusing is that Plimmer himself has made the same *volte face* in the opposite direction, inasmuch as several of his plates are actually reproduced from a former paper, in which the organisms are described as protozoa (animals), under the frankly confessed influence of Metschnikoff, while he now regards them as saccharomycetes, under the influence of San Felice. It would really seem as if the final arbiter of questions medical, the level-headed, all round, family-physician, was justified in looking askance at reported discoveries of the cancer parasite, until its enthusiastic champions can agree not merely among themselves but *with* themselves for three years in succession whether it is a vegetable or an animal, and publish demonstrations free from such distressingly obvious taints of suggestion and expectation.

The appeal of the Royal College of Surgeons for relief from taxation on their magnificent museum and library on the ground, of course, that they are purely scientific collections, neither for profit nor for personal advantage, has been decided in a curious manner. The court held after careful deliberation that the museum was entitled to such exemption, but that the library, being for the personal advantage of the members, was not. A beautiful illustration of legal hair-splitting, for when it is remembered that under the legal requirements of a double qualification for practice, nearly two-thirds of the entire English profession are members of the college, the library becomes as public an institution as can well be found, to say nothing of the generous and courteous way in which it is placed at the service of visiting members of the profession from every part of the habitable globe.

The London medical press comments most favorably on the vigorous methods used in dealing with the smallpox-scare at Laredo, Texas. They are particularly impressed by the use of regular troops, and warn the anti-vaccinationists against dependence upon "democracy" for relief from compulsion, as a democracy in which a majority of the people are in favor of protecting the community in this way is likely to have even less scruple in enforcing its decisions for its own good than an absolute monarchy.

It is proposed to establish an Anglo-American hospital in Rome and an organization, of which the British Ambassador, Sir George Bonham is president, has been formed for that purpose. Its object is simply to provide a place where visitors of both nations falling ill in Rome, that hot-bed of disease, can obtain skilled nursing and the best of care. There is great need for such an institution, as the only resource at present is the convents, and the nuns, though kind and hospitable, are but little versed in modern methods of nursing, and rather resent any suggestions or trained assistance from without. Some $3000 has been raised already, but it is anticipated that its support will require about $1000 a year.

Not merely every dog has its day, but every insect as well, apparently. The despised and hated mosquito is in high honor just at present, and experts are hard at work devising foods upon which it may be kept alive. The most successful appear to be bananas and a mixture of equal parts of brown sugar and sherry. Which would appear to indicate that the mosquito's life though short is a merry one.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

ON THE DEVELOPMENT OF MILIARY TUBERCULOSIS—ACCIDENTS FOLLOWING THE DEEP INJECTION OF CORROSIVE SUBLIMATE—THE DECREASED MORTALITY IN HAMBURG FROM TUBERCULOSIS, AND SOME NEW INSTITUTIONS WHICH HAVE BEEN OPENED FOR THE TREATMENT OF INCIPIENT CASES.

AT the meeting of the Berlin Medical Society, March 15th, BENDA read a report of original investigations into the spread of miliary tuberculosis, taking the ground that the rupture of a tubercle into a blood-vessel is the immediate occasion of such a dissemination. He asserted that he had observed three cases of ulcerative endocarditis which he would have passed unnoticed had he not been making this special investigation, and intimated that there are doubtless many others of a similar character which have not been noted. He also described in support of his theory the progress of tubercular ulcers of the stomach as observed by means of the gastroscope.

The paper was the subject of a sharp criticism by Virchow. He said that he had never seen a single case of ulcerative tuberculosis of the endocardium, and that while he was ready to admit that he might have overlooked some cases he thought it impossible that they had been relatively frequent since he had never found one. He also expressed his disapproval of the habit into which many of the younger men have fallen of speaking of what they have seen through the gastroscope and similar instruments in exactly the manner that they would do had the surfaces been spread out before them. Every one is entitled to his own opinion of the value of such examinations, but it is certainly inadvisable to let them stand in the balance over against the observations of an organ after death, for instance.

At a recent meeting of the Charité physicians, LESSER reported three cases of extensive swelling and gangrene which followed the injection of from 15 to 30 drops of a

1-per-cent. solution of corrosive sublimate. The patients were all under treatment for syphilis, and had shown that they were not especially susceptible to mercury, or to this method of its administration, since they had received many doses without accident. Suddenly there developed an enormous hematoma, followed in all three patients by gangrene so extensive that repair was not complete for several months. This accident in his opinion was not due to puncture of a vein, as the needle was always allowed to remain open for a moment before adjusting the syringe for injection to see if any blood came from it. Furthermore a vein could scarcely pour out so much blood in so short a time. An artery was probably traversed by the needle, its eye passing clear though both walls, so that no blood could escape until the needle was withdrawn. While this was a rare accident it showed the risk that there is in deep injections, of whatever character. This risk can be greatly lessened by making the injections into the subcutaneous fat; it is to avoid the pain which often follows such injections that the needle is thrust into the muscles. All of the three patients were women.

At the Medical Union of Hamburg, March 21st, REINCKE showed that the mortality from tuberculosis in that city has fallen greatly since 1884. This improvement he ascribed to improved hygienic surroundings, better food, better dwellings, etc. He warned against a relaxation of effort on the part of the medical profession, as the aim ought to be, not merely to increase the resisting power of the well individual, but to cure every sick person or at least to treat him so that he shall not infect others. To obtain these results it is desirable that tuberculous patients shall be treated in institutions especially provided for them.

DEUCKE and RUMPEL described an institution of this character which has recently been opened near Hamburg. It was built by private capital on condition that the city conduct it for a period of years. It lies 200 feet above the Elbe, and has its own grounds, including a grove. One hundred patients can be accommodated. The usual charge is fifty cents a day, or less. It is especially intended for incipient cases in which the diagnosis is based upon a sputum examination, while physical signs are absent. The effect of treatment upon a patient at this stage presumably in the first attack, gives a valuable indication of the course the disease is likely to pursue in future attacks. Patients with fever, early hemoptysis, laryngitis and pleurisy, will not be treated in this institution.

RITTER described a simular institution which has been opened in Geesthacht, also for incipient and presumably curable cases. The period of cure is three months, and at its end, a free journey is to be given to poor convalescents.

SOCIETY PROCEEDINGS.

NEW YORK COUNTY MEDICAL SOCIETY.

Stated Meeting, Held Monday, April 24, 1899.

THE President, DR. S. O. VANDERPOEL, in the Chair.

The first paper of the evening, by DR. J. E. STUBBERT of Liberty, Sullivan County, N. Y., was entitled

SOME AUXILIARIES TO THE CLIMATIC TREATMENT OF PHTHISIS.

Dr. Stubbert said that we have about given up thinking that there are specifics for pulmonary tuberculosis. Creosote, which was the last remedy lauded in this respect, has proved to be a good cough medicine but scarcely more. As the result of the giving up of faith in drugs has come a misplaced confidence in climate alone with a resolve to keep away from doctors, but this is an error in the opposite direction since medical treatment can do a great deal. Climate alone will benefit incipient cases, but comparatively few incipient cases come for treatment.

Especially is treatment important for the complications of tuberculosis. Of the cases treated at Liberty more than 400 have had complications. The majority of these have been in the throat, nose, and pharynx. The chronic congestion induced by these irritative conditions can scarcely fail to react unfavorably upon the tubercular process in the lung. When promptly and persistently treated, too, these lesions may be arrested before ulceration has taken place. It is a conservative estimate to say that twenty-five per cent. of consumptives have some laryngeal tuberculosis while a large number have lesions in the pharynx or nose. For these conditions local treatment is indispensable. Albolene sprays should be employed, or Dobell's solution with occasional applications of lactic acid or of nitrate of silver. Tags of hypertrophic tissue give way to applications of suprarenal capsules.

For the successful local treatment of these tuberculous conditions in the nose and throat time and patience are necessary. In the larynx especially is improvement slow. In a recent case Dr. Stubbert had under his care, in which there was loss of voice, steady treatment was kept up for over eight months and improvement, especially at the beginning, was very tardy, but the patient is now practically well and has completely recovered her voice.

Anemia is a very common complication of tuberculosis, especially in the incipient stage. For this the stimulant effect of high altitudes upon the blood-making organs, and the constitutional effect of plenty of fresh air are the best remedies. At Liberty static electricity has given excellent results in anemia, better than any other single method of treatment. There is marked improvement usually manifested under its use, especially in cases complicated by neurotic conditions. An hour in the ozone-room and contact with the negative electrode, or a séance on an insulated stool always favorably affects such cases.

The ideal diet for tuberculous patients is to have them take three substantial meals a day. Gastro-intestinal disturbance not infrequently prevents this. It is probable that chronic gastritis with dilatation of the stomach is sometimes an etiological factor in the production of the lowered state of resistive vitality that has permitted the successful implantation of the tubercle bacillus. These conditions should be treated by accepted methods and Dr. Stubbert has found lavage and Einhorn's intraventricular electrode of special service. When tuberculous

patients suffer from biliousness a cathartic dose of calomel will be of service.

Dr. Stubbert has made a very satisfactory trial at Liberty of the antitubercle serum manufactured by the United States Government and has been pleased with the results obtained. It is of good service, especially in incipient cases, but seems to be contraindicated in advanced cases. It is better than creosote and a certain immunity to the disease seems to be established in patients who recover under its use, so that despite the fact that they go back to live under unfavorable circumstances relapses do not occur. Antistreptococcic serum seems to be indicated in certain cases, though they are not numerous and are mainly such as high altitude affects favorably by stopping the ravages of mixed infection.

A remedy that has given excellent results in Dr. Stubbert's hands is ichthyol in large doses—doses so large that they pass through the stomach practically unchanged. Thirty grains three times a day is given unless diarrhea or vomiting intervenes or the persistent taste of ichthyol in the mouth takes away the appetite. There is a marked gain in weight under this treatment and a general feeling of improvement. The sputum soon grows less and changes in color from green to yellow. From fetid and purulent the expectoration becomes mucous and frothy, and the pyogenic membrane becomes mucus-secreting once more. A cessation of the remedy too soon, *i. e.*, before certain changes have taken place in the lungs leads to a return of the old characters of the sputum. Of fifty-one patients treated by ichthyol 14 per cent. were cured, 55 per cent. improved, 19 per cent. were unimproved, and 12 per cent. died.

Another drug that has given good satisfaction is kolagra. Results with it were comparable to those obtained with ichthyol. The drug has been introduced from South America, where the native Indians had learned its virtues in pulmonary tuberculosis and had taken advantage of them. The Indians noticed long ago that cattle suffering from consumption, when allowed to wander off because no longer considered worth the caring for, often returned after some time, sleek and fat and entirely cured. It was noted that they ate this plant especially, so the hint was taken. It is antiseptic in its action, and under its use Dr. Stubbert has seen tubercular infiltration of the larynx disappear. It is given in doses of ½ to 1 c.c. The subjective symptoms very soon improve and the bacilli become less. For its prompt effect in changing the character of the sputum to a mucous, frothy secretion instead of a greenish purulent liquid it deserves to rank with ichthyol and creosote.

In discussion Dr. E. Le Fevre said that in the matter of treatment a sharp distinction should be drawn, especially between the two most usual forms of reaction of the organism affected by the tubercle bacillus. In one class of cases there is a connective-tissue overgrowth and very little destruction of tissue. The organism protects itself by encapsulating the bacilli. In a second class there is marked destruction of tissue, and the organism tries to eliminate in the material thrown off the invading micro-organism.

There is a hopeful field in medical treatment without climate and one of the important elements of it is attention to the auxiliaries mentioned by Dr. Stubbert. Especially is attention to the upper air passages necessary. Inflammatory conditions here set up pulmonary reflexes which lessen respiratory movement. There is imperfect inspiration that fails to fill the edges of the lungs, and a lagging respiration that predisposes to the invasion of the tubercle bacillus.

Dr. S. A. Knopf said that respiratory exercises increase the vital capacity of the lungs and act as a general stimulant. The number of blood-corpuscles increase and the oxygenation of the system is greatly facilitated. Lung exercises might be used every hour according to the patient's condition and are a most helpful remedy. Hydrotherapy is also of great value. A douche on the apices serves as a precious stimulant to metabolism here, which aids in the cure of diseased processes. The general spray is a good systemic stimulant and when a spray is directed frequently to points where old pleuritic adhesions exist the tendency to painful uneasiness at these points decreases and the adhesions gradually loosen, permitting freer play of the lungs.

As to serum he thought that while it may have a value in the treatment of tuberculosis, that value is not yet sufficiently determined to enable us to make any public announcement as to its effect.

In conclusion, Dr. Stubbert said that he is not an advocate of kolagra or of ichthyol or of the serum treatment, but that he is an advocate of a fair trial of remedies that come to us highly recommended by others. Our remedies for tuberculosis up to this are so ineffective that this open state of mind is the only rationally defensible one. Kolagra has come to us authenticated by the President of the United States of Columbia, and good results seem certainly to follow its use. The serum is supplied by our own Government and theoretically, at least, would seem to be indicated. Personally he has not seen relapses after its use and knows of none. He is not an advocate of particular new remedies but of judicious investigation of the good they may do.

The second paper of the evening was read by Dr. W. M. Leszynsky and was entitled

SOME OF THE ESSENTIAL FEATURES IN THE DIAGNOSIS AND TREATMENT OF SO-CALLED IDIOPATHIC EPILEPSY.

He said in brief: Epilepsy occurring without any recognizable cause in the skull or its contents is not a very uncommon condition. It is absolutely unamenable to surgical treatment and we have to depend on the medical management of the case. In dispensary practice with homes in tenement-houses it is extremely difficult to make any treatment successful. For such patients the best thing is living in a colony for epileptics. Craig Colony is already doing excellent work in this line, but already they are pressed for room and applicants must wait their turn. The institution eminently deserves the State aid it asks and the profession and the County Medical Society in particular should use their influence to obtain it.

The diagnosis of epilepsy is not difficult if an attack is

seen. The descriptions of non-medical friends are, however, very unsatisfactory, and very little reliance can be placed on the patient's own account of his seizures. Uremic attacks have caused mistakes, but should not if the heart and urine are carefully examined. A good deal of stress is laid on the differentiation of hysteria and epilepsy, but it must not be forgotten that hysterical symptoms may complicate genuine attacks of epilepsy, and that attacks of both may alternate for some time.

Sometimes the attacks may be so slight as to attract not very much attention even from the patient himself, or may occur during sleep and so remain latent for a long time. An actor who finally had to give up his profession because of frequently recurring attacks of petit mal, in which he forgot his lines and part and talked gibberish for a few minutes, proved on careful inquiry to have been having a series of attacks of grand mal at night for years which had remained unrecognized.

One of the fruitful sources of nervous reflexes that should always be carefully attended to in epileptic patients is the eyes. Suitable glasses should always be fitted whenever there is any error of refraction. For a time exaggerated claims were made for the curative effect of the correction of errors in ocular muscle balance, but these claims have not been substantiated. Correct the refractive errors rather than the muscular anomalies. The removal of uterine appendages in women was tried in some cases for epilepsy years ago, but the proceeding has now no supporters. Intestinal auto-intoxication undoubtedly plays a rôle in increasing the number and severity of epileptic seizures. Epileptics are habitually bolters of their food, and digestive disturbances are almost the rule. Dr. Herter has shown that intestinal toxins are excreted in the urine in greater abundance just before an attack showing there are more of them in the system. The acute infectious fevers often make the epileptic condition worse, and so do traumatic or surgical infections.

The first rule is to improve the general condition. That bromid is necessary whenever epileptic attacks occur is a mistake. If there are but three attacks a year, for instance, it is extremely inadvisable to keep the patients under the constant use of the bromid. Rather seek out the immediate cause or occasion of the attacks, and if possible influence that. Give the smallest dose of bromid that will keep the attacks under control. Arsenic may be added to prevent the occurrence of acne, and care of the skin will do much to keep off cutaneous reactions to the drug. Sudden withdrawal of the bromids after they have been taken for some time in any amount should be advised against as it has been known to produce the status epilepticus.

AMERICAN GYNECOLOGICAL SOCIETY.

Twenty-fourth Annual Meeting, Held at Philadelphia, Pa., May 23, 24, and 25, 1899.

FIRST DAY—MAY 23D.

DR. DUER of Philadelphia, in a few well-chosen remarks, bid welcome to Philadelphia to the members and guests of the Gynecological Society, which has been the American parent of all advances in this branch of medicine and whose proceedings have had direct effect on the welfare of the women of every land. It has the approval of the whole world and has been the court of last resort for all mooted questions, setting the seal of approval or disapproval on all papers read before it. It is the sponsor of modern gynecology and many things that were a question on its foundation are not a question now. It was the earnest wish of all that this meeting should equal its predecessors in the brilliancy of its papers and discussions, and on behalf of the medical men of Philadelphia he extended a most cordial welcome to all,

DR. HUNTER ROBB of Cleveland read a paper, entitled "Sixty-five Consecutive Abdominal Sections without a Death; with Clinical and Pathological Reports," and said: Perhaps more can be learned from our failures than from any number of successes, but still much can be learned from success and from a careful macroscopic and microscopic study of the sections removed. There are three most important factors of success: (1) Careful operative technic. (2) Preparation of the patient. (3) Operative skill.

There should be a thorough organization of the staff that is to assist at the operation, each assistant thoroughly understanding his or her particular duties, and all should work together harmoniously. The first assistant should assist the operator directly, the second having charge of the instruments and handing them to the operator or first assistant as needed. The third assistant takes charge of the dressings, and makes any cultures or cover-slip preparations that are desired. The fourth assistant devotes all his attention to the giving of the anesthetic, while the nurses watch and are ready to be of service when called upon. Of course the most thorough asepsis of dressings, instruments, pads, the field of operation, and the operator and his assistants' hands is carried out in the usual manner.

The patient should be under observation for several days previous to the operation, and a thorough study of the excretions should be made. A careful physical examination should also be made, and the blood before and after the operation carefully studied. The patient's general condition should be improved as much as possible before the operation. Rubber gloves, sleeves, and skull caps, should be used by the operator and his assistants during all operations, for by their use the danger of infection is materially lessened. The sponges are best made of pads of gauze, thoroughly sterilized, which is a much easier proceeding in this case than when sea sponges are used. About 500 c.c. of hot sterilized normal salt solution should be used to flush out the abdominal cavity at the conclusion of the operation, and then about 500 c.c. or less should be allowed to remain in the cavity. When drainage is necessary it is best accomplished by means of a gauze drain.

The patient after the operation should be put to bed in the postural position, as in that position drainage is best obtained. Shock should be combated by hypodermic injections of strychnin and enematas of hot coffee. If thirst be extreme the patient may be given a few sips of

hot water, or this failing, an enemata of hot water should be administered. No morphin should be given unless there be a special indication for its use. The bowels should be opened on the second day by a moderate dose of calomel followed in two hours by an enema of glycerin and soapsuds. Unless the patient pass her urine voluntarily she should be catheterized every eight or ten hours. The postural position should be maintained at least for the first ten hours but should there be much pain or restlessness, the patient may be moved on her side for ten minutes and then the postural position be resumed. Should the tympanitis be extreme, a rectal tube should be passed, this failing, an enema of turpentine, sweet oil, and water should be administered. Turpentine stupes should also be given a fair trial.

The clinical and pathological report of sixty-five sections may be condensed as follows: The oldest patient was aged fifty-seven years, the youngest seventeen, and the average thirty-one years. Fifty-three were married, 16 were single, while 6 were widowed. The chief clinical symptoms were pain in the lower part of the back in 54 cases, backache in 30, dysmenorrhea in 40, and leucorrhea in 19 cases. In 2 of the latter it was of specific origin. There was menorrhagia in 19 cases and metrorrhagia in 1 case. Frequent and painful micturition was present in 6 cases, and irregular menstruation in 19 cases, being scanty in 2 cases. An organic lesion of the heart was present in 3 cases. Dyspareunia was present in 1 case.

The longest time of anesthesia was three hours and fifteen minutes, the shortest time was one hour and twenty minutes, the average time being two hours and nine minutes. The longest operation occupied two hours and fifty minutes, the shortest thirty-nine minutes, while the average time was one hour and thirty-eight minutes. In every case the abdominal cavity was thoroughly irrigated with a hot normal salt solution. In only one case was drainage necessary, and then a strip of sterile gauze was used.

Dr. Charles P. Noble of Philadelphia opened the discussion by saying that the technic used by Dr. Robb was the same as that generally used throughout this country. The postural position after filling the abdomen with hot salt solution, is an admirable addition to our means of treatment, and is especially valuable in pus cases. In a very large private and hospital experience no bad results have followed. The glass drain has now been given up as a routine procedure, most cases requiring no drainage at all, still it is a great question whether gauze is a better drain than the old-fashioned glass tube. The only use for the gauze drain is when injury to the bowel or gall-bladder has occurred, or when there is extensive hemorrhage. He is opposed to the teaching that gauze is the very best drain. It would seem that often it acts as a dam, preventing the discharge of serum, etc., which would otherwise have taken place. There seems to be no objection to the use of opium in these cases. His patients are given half a grain hypodermatically of phosphate of codein *ad libitum*. In not one case has any bad result followed its exhibition.

Eternal vigilance should be the watchword in these cases, and they cannot be watched too closely. Sponges would seem to be better than gauze pads. They are cheaper, and by their use it is much easier to thoroughly dry the field of operation. In every way they would seem to be more satisfactory. The rubber gloves are more useful when the hands of the operator have been in contact with suspicious cases, but they should be used always, for the operator never knows when his hands are not surgically clean, and after a little practice one can operate quite as well with them on as off, except that it is more difficult to handle and manipulate intestines when they are used.

Dr. J. Montgomery Baldy of Philadelphia said that there was a time when he never used morphin in these cases, but now he uses it whenever the patient is restless during the night after the operation. The good that has followed its use at this time cannot be overestimated. The bowels, as a rule, are not opened before twenty-four hours after the operation and by that time the effects of the morphin will have entirely passed away. Gauze is most valuable to drain serum, but it will not drain blood and at the best it is absolutely uncertain. With a gauze drain it is absolutely impossible to see an intra-abdominal hemorrhage, while if a glass tube be used the presence of the blood is manifested at once. The use of normal salt solution in these cases is by no means of recent origin and is most valuable in nearly all cases. There is nothing better for absorption than the thorough use of the sterile sea-sponge. They are dangerous if not properly prepared, but if they be thoroughly washed and then sterilized they are much better than the gauze pad. The rubber glove does not seem to be so useful for the reason that it spoils the tactile sense. It should only be used in cases of absolute necessity; that is, after the operator has been with a badly infected case and then has to operate on a clean one.

Dr. J. E. Janvrin of New York said that hot saline solutions were used thirty years ago by Dr. Peaslee and that the credit for being the first to use them should go to this American surgeon.

Dr. A. P. Dudley of New York said that to his mind it is a great question as to whether or not gauze is a true drain, and it would seem that it is not, as it will not act as a true drain through an abdominal incision. On the other hand, it is a most excellent drain when it is used by way of the vagina. The gauze should be left in place for five days because during the first few days it clings closely to the peritoneum and intestines and should not be drawn out while still held in this fibrin attachment. It is not possible to drain up hill which is what one does when an attempt is made to drain through an abdominal incision by a piece of gauze. It is most valuable in drainage by the vagina, allowing no air to enter the abdominal cavity, as often happens when the rubber drainage-tube is used.

Dr. Wathen of Louisville said that he generally operated though Douglas' cul-de-sac in preference to the suprapubic route. He finds it possible to remove everything by this route, and has not had a single death, and

every patient made an uninterrupted recovery. He generally employs gauze for drainage and finds it answers its purpose perfectly, especially so when the gauze is encased in a gum tube. In the majority of cases there is no need for a laparotomy, as everything can be removed per vaginam. The drainage is better, the time of operation is shorter, the danger of tearing the bowel is less, and the patients make a better and quicker recovery. In no case is there any indication for the use of rubber gloves as by the ordinary methods the hands can be made perfectly aseptic.

DR. LAPTHORN SMITH of Montreal said that he uses opium in every case in which there is restlessness during the first night after operation. The use of salt solution is a most valuable adjunct, and in three or four cases life has been saved by its use. It is especially valuable in those cases in which large tumors have been removed. In most cases drainage is not necessary after laparotomy, but if there is a direct indication for its employment it should be done per vaginam. When gauze had been used as a drain through the abdominal incision in three pus cases it was found to be useless, as in a very short time it not only did not drain, but dammed back fluids which otherwise would have made their escape. There is strong evidence in favor of the use of a rubber drainage-tube through Douglas' cul-de-sac, packing the vagina around the end of the tube with sterile absorbent gauze.

DR. BOUVE stated that he considered normal salt solution to be of distinct advantage in these cases. The preoperative treatment is a great drain upon the patients, the light diet and purgation causing the loss of much fluid, so that loss is made up by the salt solution, which also tends to relieve thirst, which is often the most distressing symptom after operation. The rubber gloves are a most valuable addition and help to the surgeon, as it is nearly impossible to make the hands absolutely sterile, and then to keep them so during the operation. They are made of the only material that is absolutely impermeable, and they should be used in every operation.

DR. J. RIDDLE GOFFE of New York said that he thought the after-treatment of these cases was most important, and that they cannot be watched too closely. It is most important that the patient be kept as comfortable as possible. She should be placed in any position agreeable to her just as soon as she is out of her anesthetic. If she becomes restless in any one position she should be changed at once, and if necessary, a hypodermic of morphin should be administered, and if there be an indication it should be repeated. By frequently changing the patient's position she is made perfectly comfortable, and so in many cases the use of opium is avoided.

DR. ROBB closed the discussion by saying that the salt solution tends to decrease the thirst, and is most valuable in the after-treatment. After a long experience he has found that gauze drains act quite as well as does the glass tube. The glass tube, as a rule, is usually filled with bacteria, and certainly causes much more trauma to he abdominal contents. As a rule, even in bad pus cases, a drain is not required for the reason that in nearly all cases this pus is sterile and absolutely free from micro-organisms. In eighteen cases of pyosalpinx in which there was abundant quantities of pus, the abdominal incision was closed up without drainage, and the patients made an uninterrupted recovery. Simply because pus is present is not an absolute indication for drainage. In nearly all cases this pus is sterile, but it is a good general rule to use rubber gloves and sleeves as they can be rendered absolutely aseptic, which is very difficult and often impossible in the case of the hands and arms. If virulent organisms be present in a pus case, it does not matter how much drainage you put in, the patient cannot be saved. The whole abdomen may be filled with drainage-tubes and be constantly irrigated, yet the result is the same. The hot salt solution is valuable in that it lessens toxicity of any micro-organisms that might be present and tends to relieve the thirst. The postural position is the best, as in that position drainage seems to go on better. The use of morphin as a routine treatment is not wise, other things being tried first. The deodorized tincture of opium was tried in many cases and proved most valuable. As it is so hard to properly sterilize sea sponges it would seem that gauze sponges are the best, as they can be rendered perfectly sterile, and are in reality not more expensive than sponges. One of the chief advantages of the gauze pad is that they can be made of any size desired, intestines can be walled off much easier in those cases in which they are used, and the operative technic thereby simplified.

DR. CHARLES P. NOBLE of Philadelphia then read a paper, entitled "Early Abdominal Sections for Fibroid Tumors, with a Tabulated List of All Operations Prior to 1865," in which he went very fully into the early history of this operation. In the majority of cases the operation was attempted after an error in diagnosis, the operator believing that he had to deal with some form of ovarian tumor, and when he discovered his mistake, abandoned further operative interference. In 1842 Charles Clay of Manchester did a supravaginal myomectomy but the patient died of hemorrhage. In 1844 Clay performed a total extirpation of the uterus, but the patient unfortunately died as the result of a fall. In 1863 Clay successfully performed a supravaginal amputation of the uterus.

(To be Continued.)

THERAPEUTIC HINTS.

Formula for Phospho-Chlorid of Calcium and Guaiacol.—

℞ *a.*	Calcii phosphat.	. . .	ʒ ii
	Ac. hydrochlorici	. . .	ʒ ii ʒ ii
	Aq. dest. .	. . . .	ʒ iv.
℞ *b.*	Bals. tolutani	. . . .	ʒ ss
	Spiritus, Aquæ } aa	. . . .	ʒ iiss.
℞ *c.*	Guaiacol	. . . . .	ʒ iiss
	Glycerini	. . . . .	ʒ v
	Syr. simplicis	. . . .	ʒ iii
	Rum	. . . .	ʒ i
	Sherry	. . . . .	ʒ ii.

Mix a. b. c., allow it to stand 5 or 6 days and filter.

Fig. I.

Fig. II.

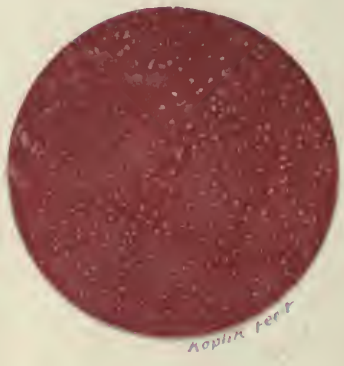

Fig. III.

Fig. IV.

The Pathognomonic Sign of Measles (Koplik's Spots).

FIG. 1.—The discrete measles spots on the buccal or labial mucous membrane, showing the isolated rose-red spot, with the minute bluish-white centre, on the normally colored mucous membrane.

FIG. 2.—Shows the partially diffuse eruption on the mucous membrane of the cheeks and lips; patches of pale pink interspersed among rose-red patches, the latter showing numerous pale bluish-white spots.

FIG. 3.—The appearance of the buccal or labial mucous membrane when the measles spots completely coalesce and give a diffuse redness, with the myriads of bluish-white specks. The exanthema on the skin is at this time generally fully developed.

FIG. 4.—Aphthous stomatitis apt to be mistaken for measles spots. Mucous membrane normal in line. Minute *yellow points* are surrounded by a red area. Always discrete.

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ORIGINAL ARTICLES.

THE NEW DIAGNOSTIC SPOTS OF MEASLES ON THE BUCCAL AND LABIAL MUCOUS MEMBRANE.

BY HENRY KOPLIK, M.D.,

OF NEW YORK;

ATTENDING PHYSICIAN TO THE GOOD SAMARITAN DISPENSARY AND TO ST. JOHN'S GUILD HOSPITAL; ADJUNCT ATTENDING PHYSICIAN TO THE CHILDREN'S WARD, MOUNT SINAI HOSPITAL.

IT is now two years since my first communication on "The Diagnosis of the Invasion of Measles from a Study of the Exanthema as It Appears on the Buccal Mucous Membrane," appeared in the *Archives of Pediatrics*. It is strange how slowly this valuable diagnostic sign has made its way. It was first taken up by Professor Heubner in Berlin who wrote to me that he had learned of this sign of measles from my reprints, and the *Archives*. He then became interested in the sign, and Slawyk, his assistant, in a communication to the *Deutsche Medicinische Wochenschrift*, No. 17, 1898, not only confirmed what I had stated about the diagnostic sign of measles, but reiterated the great importance of the sign in aborting hospital epidemics. Since then the knowledge of this new diagnostic sign of the invasion of measles has spread in Germany and Austria. It is today firmly established as the most valuable pathognomonic sign of the invasion of this disease. Its value is felt when we are told that in many of the European ambulatory clinics this sign is sought for always in the routine examination of the little patients who come for treatment, and when found, whatever other symptoms may be present, the patient is at once isolated. Such is the statement which comes from Heubner's clinic in Berlin, and Gaughofner's clinic in Prague, the latter in an exceedingly interesting communication by D. Ludwig Knöspel (secondär arzt).

Here in America it is surprising to see how little recognition the sign has received. With the exception of the articles of my assistants and pupils, and one or two scattered communications in the journals, one finds nothing except the same old insistence of ambitious correspondents concerning the old textbook signs of measles to be found on the mucous membrane. In a recent discussion before the American Pediatric Society, A. Jacobi mentioned this sign, but since then one finds very little from the leading clinics. T. Escherich of Graz has sent me a personally unsolicited communication in which he says that he has found the sign of great value in the few cases he has since seen, but explains that his material at the time was limited, and permits the above use of his name for my writings.

In view of the above, I have been persuaded that a third article on this early sign of measles is not only called for, but will tend to cause a more active interest concerning it among those who have charge of large dispensaries, hospitals, and asylums, where the prevention of epidemics is the chief function of the physician.

One does not find this sign of measles described in any of the older or more recent text-books, nor to my knowledge, in any brochure. Slawyk cites the article of Jurgensen on measles; but a study of the work of Dr. Flindt therein mentioned will show that Flindt describes a vesicular eruption on the hard and soft palate, and not on the buccal and labial mucous membrane. Filatow, translated from the Russian by Slawyk, under the author's direct supervision, and inaccessible to me, is said to describe in his infectious diseases a desquamation of epithelium on the buccal mucous membrane in the prodromal stage of measles. Not only does Filatow not describe my sign of measles, but it will be seen to be entirely different in its ultimate picture. In the German work of Filatow no reference is made to this sign of measles. After years of comparison and study, my first article appeared in 1898. It may be stated with absolute confidence at the outset that this sign appears in measles only, and never in any other condition whatever, either in health or disease. Such a statement could only be made after study and comparison of an immense amount of material, and when it is stated that this conclusion has been arrived at after a routine examination, extending over twelve years, of the mouths of all infants and children coming to one of the largest ambulatory clinics in this country, it will at once be seen that the conclusion rests on a firm basis. It was some years before the sign was formulated in the mind and eye of the writer. It was tested for years and found invariable in its presence and reliability, and the discovery was then published. I had even gone so far as to examine microscopically and bacteriologically these spots before the publication of my first paper, but had not thought it

prudent to include a find more or less indefinite in the publication of a clinical entity, thereby clouding its value.

Time of Appearance.—This new sign of measles appears as long as twenty-four hours, forty-eight hours, and even *three* to *five days* before the appearance of the skin exanthema. It is present before the signs of conjunctivitis appear, and when little or no fever is present.

The material which I here publish is only a small fractional part of my measles material. It is brought forward simply as illustrative. All cases were studied at the homes of the patients. Of fifty-two consecutive patients examined in my clinic and subsequently studied at their homes the diagnosis of measles was made in thirty-two cases before any sign of an eruption appeared on the body—not even a spot of exanthema. In three of the thirty-two the diagnosis was made three days before any exanthema appeared. In nine cases my sign appeared forty-eight hours before the appearance of the exanthema. In the remaining twenty cases fully twenty-four hours elapsed before any eruption appeared on the skin. In none of the fifty-two cases was the diagnosis wrong.

The Sign.—The sign which I have described in my former articles appears preeminently on the mucous membrane which lines the cheeks and lips. It can also be studied on the mucous membrane lining the cheeks opposite the last molar teeth. It appears only on the buccal and labial mucous membrane and not on that of the soft or hard palate or on the mucous membrane covering the fauces. The eruption or sign runs through a sort of cycle. It appears, as stated, 24 hours, 48 hours, 3 to 5 days before the exanthema of the skin. It is at first discrete, then becomes numerous and confluent, and when the skin exanthema appears and is spreading it is at its height. It then begins to fade and disappear. If one looks into the mouth in a case of measles before the exanthema has appeared he sees the usually described redness of the fauces and in some cases a few indefinite spots of red on the soft palate. In a strong glaring daylight one sees at this period on the mucous membrane lining the cheeks (buccal) and lips (labial) a distinct, pathognomonic eruption. This eruption consists of small, irregular spots of a bright-red color; in the center of each red spot is the interesting sign which I have described, a minute bluish-white speck. There may at first be only two or three or six such rose-red spots, with the bluish-white speck in the center. The combination of a bluish-white speck with a rose-red background on the buccal and labial mucous membranes is absolutely pathognomonic of the invasion of measles. Sometimes the bluish-white speck is so small and delicately colored that only in a very direct and strong daylight is it possible to bring out the above effect, but the combination is always present.

Sometimes the number of the spots is very few, and again they may be quite numerous and cover the whole inner surface of the cheeks. When once seen they will always be remembered, but in order to see them they must be looked for by everting the mucous membrane of the lips and that of the cheeks by means of the thumb and index-finger, or with a spatula, and then allowing the strong daylight from a window to fall over the examiner's shoulder on the mucous membrane. Any passing shadow obscures the picture, so delicate is the nuance of these spots at times. They can then never be mistaken for sprue, for sprue is of an opaque-white color, coarser, and at times plaque-like, while my sign is bluish-white, delicate, and never forms plaques.

Ordinary manipulation cannot remove them, such as passing the examining finger over them, but such brushing as they would receive if the mouth were cleaned by the mother I find sometimes removes them. They can also be picked off with the forceps. If examined they are found to consist of bacteria, diplococci mostly, sometimes streptococci and epithelial scales.

The Cycle.—The sign which I have described remains at first discrete, but as the rose-red spots with their bluish-white centers increase in numbers, the *rose-red spots* coalesce and a peculiar appearance of the mucous membrane results, there being large areas of rose-red studded all over with minute raised bluish-white specks, relieved here and there by the normal hue of the uninvaded mucous membrane. Finally the whole buccal and labial mucous membrane becomes of a uniform rose-red color studded with myriads of these bluish-white specks. At this time the skin exanthema has appeared and is spreading. When the skin exanthema is at its efflorescence the buccal eruption has begun to fade and lose its characteristics. It will thus be seen that the sign I have described is a sign of the invasion of measles and of the greatest value from a diagnostic standpoint. It gives one an infallible sign of the appearance of the disease in advance of the skin exanthema, and one can thus lessen the exposure of the healthy to contagion by a much greater period of time than was formerly possible.

In my first and second paper I pointed out the great value of this sign of measles, not only in making the diagnosis of measles, but in differentiating the many skin eruptions which simulate the eruption of measles. Since then this has been con-

firmed, not only at home, through the publications of Libman, Sobel, and Lefetra, but in the large clinics abroad (Knöspel in Gaughofner's clinic, and Slawyk in Heubner's clinic).

Among the conditions included by me, in which the skin eruption at the outset or the general symptoms were apt to raise the question of differential diagnosis, were rötheln, forms of erythema and urticaria, drug eruptions, scarlet fever, forms of simple aphthous stomatitis, and grip. To these have been added in the realm of dermatology (Sobel) forms of syphilide, antitoxin eruption (Lefetra and Knöspel), and an attack of measles following the other exanthemata, or complicating the same (Knöspel).

Scarlet Fever.—The invasion of scarlet fever sometimes is puzzling and one is in a quandary as to the diagnosis. The fauces are injected and a few deceptive spots even occur on the soft palate. The buccal and labial mucous membrane, however, retain their normal pale aspect, differing in this respect from measles.

Simple Aphthæ.—In simple aphthous stomatitis, there is a slight febrile movement at the outset, and if the buccal or labial mucous membrane be examined one may find a minute red spot or two in this situation. On close inspection such a red spot will be seen to be supplied with a yellow or pale yellow central spot or vesicle (plate) which is easily differentiated from the measles sign.

Rötheln or German Measles.—Mild forms of measles are repeatedly labeled as rötheln. This has been unavoidable because hitherto the profession has had no distinctive sign of measles in the early period of the disease. Since I have made a study of this subject I have met mild forms of a skin eruption which had the outward characteristics of measles. It was, however, duskier and more discrete even at its height than the exanthema of measles. There was slight conjunctivitis, little or no coryza, and the temperature of the patients remained low even at the height of the eruption. A careful examination of the mouth seemed to give the key to the affection. The fauces had a suspicion of infection; there may have been a spot or two on the soft palate. The buccal and labial mucous membrane showed the absence of the measles sign and were of a normally pale pink hue.

I have diagnosticated these cases as cases of rötheln in this manner, ruling out even a mild form of measles. Subsequent study of such cases confirmed the diagnosis. True measles never developed. The eruption faded and the patients, some six or seven, watched in this way, recovered within a few days.

Grip or Influenza.—No condition so closely resembles the invasion of measles as the onset of an attack of the grip or influenza in children. In these cases there is the conjunctivitis, coryza, fever, and slight cough. It is here that the measles sign is absent; the buccal and labial mucous membranes have a pale normal hue, though the fauces are injected. In addition, I have seen eruptions from quinin or copaiba which were mistaken for measles, and also *vice versa*, an attack of measles in an adult, who at the time was taking cinchona diagnosed as a cinchona eruption. The presence of my sign showed the error, and led to prompt isolation of the patient.

In the realm of dermatologic diagnosis mild forms of erythema or urticaria are early classified apart from measles by a study of the buccal and labial mucous membrane. In other special dermatologic entities, I would refer the reader to the article of Dr. Sobel, which is very instructive.

Pearls of the Buccal and Labial Mucous Membrane.—In the general search for my sign of measles in the clinic by assistants and pupils, I have frequently found that they mistook the above for the measles sign. If one studies the normal mucous membrane in young children, where it covers the inside of the cheeks or lips, one sees in many cases minute yellowish-white specks shining through the epithelium. If these are studied it will readily be seen that they are not surrounded by red and that the shining normal epithelium passes over them. I have called these "pearls" of the mucous membrane, retaining the nomenclature of Epstein, though they must not be confounded with Epstein's pearls.

The differentiation of antitoxin rashes from measles exanthema by means of my sign has been well brought out by Lefetra and Knöspel. The latter also relates several interesting cases of two attacks of measles in the same subject.

Especially instructive are the cases of double infection of scarlet fever and measles in the same subject, in which the diagnosis would have been impossible without the aid of the new sign of measles. In my own practice the following case will illustrate how this sign may be of importance in making a differential diagnosis: Child, eight years old, female, suffering from typhoid fever. Seen in consultation in the middle of the third week of a well-developed and characteristic attack of the disease. She had been doing fairly well, her temperature having fallen to 101° F. in the evening. There had been roseola in the early history of the case. Her spleen was enlarged, and there had been diarrhea and the Widal reaction. Suddenly her temperature rose to 103½° F., her body became covered with a roseola, and there was some redness of her eyes. The physician was puzzled as to whether the eruption was a recur-

rent typhoid roseola or something else. Examination of the buccal mucous membrane showed the measles-spots described above. The case was then one of typhoid fever complicated by an infection of measles which appeared in the third week of the typhoid.

It will be seen that in the spots which I have described the profession has a pathognomonic sign of measles at an early stage of the disease of the highest diagnostic value. It enables one to isolate the measles patients with certainty at a much earlier period than was formerly possible. Epidemics both in hospitals and institutions can be promptly limited if not aborted. At the same time, one has a means of distinguishing measles from a variety of similar eruptions of the skin resembling the measles exanthema.

OROSCOPY: ITEMS OF INTEREST FROM A DERMATOLOGICAL AND GENERAL STANDPOINT.

By JACOB SOBEL, M.D.,
OF NEW YORK;
ASSISTANT, DEPARTMENT OF DERMATOLOGY, GOOD SAMARITAN DISPENSARY.

INSPECTION of the mouth as an important part in the physical examination of a patient does not as a rule receive that attention and thoroughness which it would seem to merit from the fund of information one may thus obtain. The term oroscopy is not intended to imply a superficial survey of the oral cavity, a mere "looking into" the mouth, as it were, but rather a thorough examination under good illumination of the mucous surfaces of the lips, gums, cheeks, hard and soft palates, floor of the mouth, and tongue. Who will deny that with such a scrutiny many general diseases may be diagnosticated in their incipiency, others may find corroboration in the oroscopic examination, while numerous local diseases may thus be brought to light?

To discuss all the pathologic lesions which might occur in the oral cavity would carry me far beyond my original intention, which is simply to refer to a few of the most important conditions observed for the most part within the past year, especially to those which are likely to prove of interest to the dermatologist and general practitioner.

Lips.—The most common affection met with in this situation is herpes. True this attacks the skin surface more frequently than the mucous membrane, but the latter is often sufficiently involved to deserve attention. Any part of either lip may become affected, but the angle of the mouth is the favorite site. This herpes labialis — "fever-sore," "cold-sore," or "fever-blister," as it is commonly termed—may be but a manifestation of a slight systemic disturbance, to wit, constipation, coryza, bronchitis, tonsillitis, or menstruation, or it may be concomitant of cerebrospinal meningitis, pneumonia, or malaria. Indeed, it may sometimes prove of worth in differentiating the latter diseases respectively from tuberculous meningitis, pleurisy, and typhoid fever, in which conditions it rarely, if ever, occurs.

Mucous patches are observed to a greater or less extent on the mucous surfaces of the lips, most frequently at the angle of the mouth or in the groove between the gums and lips. They are usually superficial, not elevated, and present the appearance as if a nitrate of silver stick had been drawn across the surface; the latter circumstance has given rise to the term "opaline patches." When situated at the angle of the mouth they may become fissured, painful, and bleeding. Their surrounding area lacks the semblance of acute inflammation, being somewhat dull and congested; this fact proves important in differentiating them from the patches of aphthous stomatitis. The previous history, the adenopathy, the presence perhaps of a cutaneous lesion, and the resistance to ordinary local treatment would serve to render the diagnosis clear.

Stomatitis aphthosa, also known as vesicular or follicular stomatitis, forms a large part of the mouth affections in childhood. A group of vesicles constitutes the early stage; the latter soon suffer irritation and form small, superficial, grayish-yellow ulcerations with a surrounding inflammatory and reddened areola. This form of stomatitis is most commonly observed on the mucous membrane of the lips, cheeks, and tongue, and does not attack the gums for the reason that these do not contain any muciparous glands; a follicular stomatitis may extend all over the mouth and yet not touch the gums. When a stomatitis is directly on the gums it is of the ulcerative character (Jacobi). Koplik's spots,[1] those minute bluish-white spots on a reddish punctate area, which are observed in the preeruptive and early eruptive stages of measles, are occasionally seen on the upper and lower lips. Being precursors of the measles exanthem, their significance and importance from a prophylactic standpoint, particularly with reference to hospitals, schools, and institutions cannot be overestimated.

Purpuric spots on the mucous membrane of the lips are by no means uncommon; their differential value will be spoken of in connection with the hard palate. Perlèche is a contagious affection of the commissures of the lips, which is most frequently observed in schools and institutions; it occurs in in-

[1] Koplik, "A New Diagnostic Sign of Measles," *Medical Record*, April 9, 1898; Sobel, "Koplik's Spots as an Aid in the Diagnosis of Skin Lesions," *New York Medical Journal*, October 15, 1898.

fants and children. The sides of the lips are inflamed and macerated, and at times painful and bleeding fissures result. The condition may be confounded with periorbicular eczema and the rhagades of syphilis, both of which are distinguished by the history and the involvement of other parts.

In rare instances, verrucæ or warts are seen on the lips. Allen[1] has reported a case in which there were twenty on the buccal mucous membrane, with a partial involvement of the lip. Molluscum contagiosum or molluscum epitheliale, while usually occurring on the skin surface, and mostly in children, may involve the vermillion border of the lips.[2]

The pigmentation of Addison's disease may be visible on the mucous membrane of the lips before the skin lesion makes its appearance (Ortner). Chapped lips, which are nothing more than a superficial eczema with cracking, needs but a passing mention.

Nævi are now and then observed in this region. They may vary in size from that of a pin's head to an entire involvement of the lip, and may be superficial or deep. Occasionally nævi, situated near the angle of the mouth, invade the mucous surfaces of the lips.

Mucous cysts are not infrequently seen on the lips, and result from the retention of the contents of the mucous follicles. They usually form small, sessile, circumscribed, semi-elastic tumors, and appear to be situated in the midst of the soft, natural tissue. Their growth is slow, their character benign, and only when they become large do they cause any inconvenience.

Epithelioma is the form of cancer which most frequently attacks the lips, and the lower one far more frequently than the upper. It is a disease of advanced life, and occurs in males more frequently than in females. It may have its origin in a wart, papule, crack, or fissure, or in a thickening and opacity at the vermillion border of the lips. These do not disappear, but are followed by induration and ulceration, with the formation of a scab. The ulcer is excavated, with a slight exudation of a thin, seropurulent character, with a hard indurated base and everted margins. While the diagnosis of epithelioma is simple, as a rule, still it must be differentiated from papilloma and chancre. A papilloma does not usually ulcerate, the surrounding tissues are soft, the base is not indurated, and the neighboring glands are not involved. Chancre attacks females[3] more frequently than males, and may occur at any age, the cervical and submaxillary glands being early involved—six to eight weeks after the initial lesion; it is followed by secondary lesions in the throat and skin, lasts but a few weeks, ulcerates at an earlier date, and responds kindly to antisyphilitic treatment. A history of contagion may possibly be obtained. In very doubtful cases it is perfectly justifiable to excise a portion and subject it to microscopic examination.

Hypertrophy of the lips (macrocheilia) may be either congenital, transient, or permanent, and may involve the entire substance, or only the mucous and submucous tissues. Repeated attacks of eczema, chronic rhinitis or angioneurotic edema may give rise to a hypertrophy which disappears with the alleviation or cure of the etiologic factors. The strumous diathesis, myxedema, and acromegaly are usually associated with general hypertrophy of the lips.

Furuncle and carbuncle may attack the lips, the upper one far more frequently than the lower. Both conditions are associated with marked induration and inflammatory edema, and occasionally give rise to a fatal sepsis. The pale lips of anemia and the cyanotic lips of cardiac and pulmonary disturbances are recognized at a glance. Dry, coated, and fissured lips often indicate a febrile process.

Erythema multiforme exudativum may attack the lips, or, indeed, any part of the mouth, and may be mistaken for syphilis. It may occur in the form of single bullous lesions of a flabby or firm-walled nature, or, as I have seen it recently, in the shape of plaques resembling mucous patches. The latter result from the coalescence of the smaller lesions which have ruptured spontaneously. In differentiating from mucous patches, the main reliance must be placed upon the history, the absence of glandular enlargement, and especially upon the occurrence of other lesions of multiform erythema on the cutaneous surface. Rosenbach[1] has pointed out that erythema bullosum of the tongue is often associated with a similar eruption on the genitals. In a patient whom I recently saw at Dr. C. W. Allen's Good Samaritan Dispensary Clinic, the bullous lesions of the lips and tongue were associated with the occurrence of numerous firm, single-walled bullæ on the under surface of the penis and scrotum, giving to the latter region the appearance of a bunch of grapes.

Gums.—This region may present a number of interesting conditions. First of all, that common affection, ulcerative stomatitis or fetid sore mouth. Needless to say this is most frequently observed in bottle-fed babies, in whom cleanliness of the mouth is not rigidly enforced. It is not limited to childhood, however, for it has been seen in adults who

[1] Allen, "Impressions and Conclusions Based upon the Study of 5000 Skin Cases Treated During the Year," *Medical Record*, October 22, 1898.

[2] Allen, quoted by Jackson, "Diseases of the Skin," 1892. Page 321. Fig. 33.

[3] Bulkley, "Syphilis Insontium," 1894. Page 39.

[1] *Deutsche. Medicin. Wochenschrift*, June 28, 1894.

were crowded together in poor hygienic surroundings. It may vary from a slight ulceration with redness and swelling to the formation of marked fetor and gangrene. There is hypersecretion of saliva, and mastication is exceedingly painful.

The spongy gums of mercurial salivation are familiar to all. This objective appearance is combined with the subjective sensations of a sweetish, metallic taste, pain on closing the teeth, and fetor of the breath. How often is the bluish-black line at the margin of the gums the first intimation that the patient is a subject of saturnism? This line is *in* and not *on* the gums, and cannot be removed by cleansing the teeth. In scorbutus and morbus maculosus of Werlhof the swelling, fragility, and bleeding from the gums are prominent features.

When a patient presents himself with an inflamed and indurated cheek, with perhaps swelling and even closure of the lids, is not the source of the trouble frequently a small alveolar abscess?

Swelling of the gums with falling out of the teeth may be the initial symptom of diabetes mellitus. Gingivitis is the general term for inflammation of the gums. Papillomata are rarely seen in this situation.

Simple epulis is a small, round, elastic, benign tumor resembling in appearance and structure the normal gum. Exceptionally an epulis is of malignant nature. Finally, from the accumulation of tartar due to improper mouth hygiene small abscesses may form along the junction of the teeth and gums.

Buccal Mucous Membrane.—This is the favorite site of Koplik's spots, which are pathognomonic forerunners, by three or four days, of the measles exanthem, and which also serve to differentiate this disease from other morbilliform eruptions, from German measles, antitoxin rashes, etc. Lately their importance in diagnosticating a beginning measles during the convalescent stage of scarlet fever and diphtheria, or in determining a second attack of measles in the same patient has been dwelt upon.[1]

Aphthous stomatitis, mucous patches, leucoplakia, and purpuric spots are observed in this situation. The pigmentation of Addison's disease often lurks on the mucous membrane of the cheeks. Papillomata[2] have lately been reported as occurring in this region. The simple ulcer following the irritation of a diseased and ragged tooth—dental ulcer, so-called—can hardly escape one's notice.

Thrush, sprue, or parasitic stomatitis often involves the buccal mucous membrane. It is a superficial stomatitis consisting of small, creamy deposits which coalesce and rarely result in the development of ulceration. As its name implies, it is parasitic in nature, and is dependent upon a fungus, the oidium albicans.

Noma or cancrum oris is the gangrenous form of stomatitis, which begins as a small dark spot or ulcer upon the inner side of the cheek or gum, and finally gives rise to sloughing and gangrene, with marked constitutional symptoms, and eventually death. It is usually a sequel of measles or scarlet fever, and both cases which I observed followed an attack of measles.

Hard Palate.—Varicella may often be diagnosticated by the lesions on the hard or soft palates. In the early stages, when the skin lesions are scant, indefinite, and apt to suggest a papular urticaria, the occurrence of flattened vesicles or yellowish excoriations with a surrounding reddened areola will remove all doubt. At times, these lesions are in groups of two and three, as on the skin surface.

Variola, it is said, may show the initial vesicles on the palate. Icterus is sometimes seen along the raphe of the hard palate before the cutaneous surface is affected.

The hard and soft palates often present a spotted red appearance at the invasion of measles. This is simply a papular eruption similar in every respect to the cutaneous outbreak, and while strongly suggestive of measles, when combined with other symptoms, is by no means pathognomonic.

Anomalous epithelial pearls (Epstein's pearls), consisting of slightly elevated, yellowish-white, irregular masses, may be seen scattered on either side of the median line in very young children. They have no particular significance, and unless ulcerated cause no inconvenience.

Mucous patches are occasionally observed in this situation, and are of especial interest because they may give rise to the same lesion on the corresponding part of the tongue, as was pointed out several years ago by Dr. Allen. When the mouth is closed the tongue rests against the hard palate, even more so when an attempt is made at deglutition; the result is that these patches being auto-inoculable, infection takes place by contact of tissue. Treatment in these cases must be energetic on account of the danger of perforation.

Bednar's aphtha is an affection of infancy which consists of a bilateral, superficial, round ulceration at the posterior alveolar border of the hard palate, at the point where the pterygomaxillary ligament is "put on the stretch" during the act of nursing or opening the mouth. It generally occurs from the second to the fourth week.

[1] Ludwig Knöspel, *Prager Med. Woch.*, xlii., 1898.

[2] Allen, "Impressions and Conclusions Based upon the Study of 5000 Skin Cases Treated During the Year," *Medical Record*, October 22, 1898.

Purpuric spots on the mucous membrane of the hard palate may prove the differentiating factor between purpura simplex and purpura hemorrhagica. Again, there are some cases of purpuric "bites" from fleas and body lice which are difficult to distinguish from purpura; the former are generally of the petechial, the latter of the maculæ ceruleæ type. In such instances the mucous membrane eruption furnishes the final test.

Soft Palate.—Aphthous and parasitic stomatitis may involve this region in severe cases. Bifid uvula, though rare, is occasionally observed. I have recently seen a number of such instances at the Good Samaritan Dispensary.

Edema of the uvula, either as an idiopathic affection, as part of a general pharyngeal inflammation, or the result of urticaria,[1] following irregularities in diet or drug medication, is not as infrequent as is generally supposed. It varies from very mild cases to those in which numerous and heroic punctures, and even amputation, become necessary. Angioneurotic edema may be classified in this group.

Elongation of the uvula is immediately perceived. The participation of the soft palate in a membranous throat is strong presumptive evidence that the lesion is diphtheritic.

Floor of the Mouth.—Tongue-tie, due to an abnormally short or broadly attached frenum, is the most common affection and is seen at birth. There may exist an arching of the dorsum of the tongue, and inability to protrude the organ beyond the incisors. In early life this prevents the proper adaptation of the tongue to the nipple, and later gives rise to impediment in speech. The treatment is surgical, division with a blunt scissors toward the teeth (to avoid cutting the ranine artery) being the preferable method.

Ranulæ or cystic tumors of various size are observed on either side of the frenum. They are due to obstruction of Wharton's duct, or of the sublingual ducts, the ducts of Rivini.

Salivary calculi are most frequently found in the submaxillary duct. They vary in size from that of a pea to that of an olive. Clinically, they give rise to irritation, with pain, and a soft tender swelling on the floor of the mouth, which recurs with a certain periodicity.

In children who have "cut" their lower central incisors and who suffer from pertussis it is not uncommon to find an ulcer on the under surface of the tongue near the frenum; this ulceration is traumatic in nature and results from the irritation which is produced at every paroxysm, when the tongue glides over the surface of the teeth.

Tongue.—This organ, *speculum primarum viarum*, furnishes such a vast amount of information that it would require a special paper to discuss it; for that reason it can be dealt with now only in a general manner. The tongue seems to be a general index whether the condition is a local manifestation of a constitutional disturbance or whether the process is a limited affair. The coated tongue of certain gastric disorders, the reddened tongue of fever, the strawberry tongue of scarlatina, the brown coating and fissuring of the typhoid tongue, the hypertrophic and thickened tongue of myxedema and acromegalia, and the pigmented tongue of morbus Addisonii are all general diseases with a local manifestation. These, however, pale into insignificance when compared with the number of local lesions. Many of them are so rare as to deserve a place in the category of curiosities. It is the more common affections of every-day practice that are of most interest here. Herpes febrilis, mucous patches, aphthous stomatitis, and thrush often have their starting-point in this organ. Simple or dental ulcer of the tongue is rarely mistaken for anything else. Its superficial character, its lack of induration, its situation opposite a sharp tooth, and the absence of glandular enlargement would serve to clear any doubt.

Leucoplakia or leucoma consists of glossy, milky-white patches of various size, shape, and thickness, which occur most frequently on the tongue and buccal mucous membrane. When the patches are scattered leucoplakia is the term applied; when they coalesce leucoma is more appropriate. This condition is of especial interest on account of its relation to syphilis and carcinoma. That these plaques may occur during the course of syphilis no one will deny; that syphilis is the direct cause of them is, however, very doubtful. The abuse of alcoholics, decayed teeth, and excessive smoking are the etiologic agents in some instances. They have even been called "smokers' patch," but, inasmuch as they are seen in women and non-smokers, this term is not strictly applicable. Its connection with cancer is important because after existing for a certain period of time these patches may assume all the appearances of malignancy.

Geographical tongue or exfoliatio areata linguæ requires mention,[1] not account of any great significance or importance that it may possess, but because of the danger of confounding it with other affections and becoming alarmed at its presence. It consists of a peculiar serpiginous or map-like ar-

[1] Lederman, *The Laryngoscope*. St. Louis, September, 1898; Reardon, *Boston Medical and Surgical Journal*, March 17, 1898; T. H. Chittenden, *British Journal of Dermatology*, May, 1898; Taylor, *Medical and Surgical Reporter*, April 30, 1898.

[1] Allen, "The Tongue," Wood's "Reference Handbook of the Medical Sciences."

rangement on the upper surface of the tongue, with central reddened areas surrounded by slightly elevated yellowish borders. It occurs for the most part in children and may be observed in the exanthemata, eczema, psoriasis, miliaria, impetigo, syphilis, tonsillitis, constipation, and a variety of other conditions. On account of its evanescent and recurrent character it has been styled "wandering rash." It is distinguished from the syphilitic plaque by its constant change of position and by the yellowish margin.

Nævi, generally of the angiomatous type, are occasionally found in the tongue. They are venous, soft, and somewhat elevated, bluish tumors, which pale on pressure.

Papillomata may appear on the dorsum of this organ. They consist of hypertrophic papillæ, their base is soft and they rarely ulcerate. They may be the beginning of a cancerous process.

A question which is often asked and which is not always so easily answered is: Does this tongue lesion appear syphilitic, cancerous or tuberculous? The syphilitic lesions of the tongue embrace mucous patches, fissures, chancre, ulcers and gumma. Mucous patches and fissures are easily diagnosticated for the reason that other secondary manifestations usually exist. As has been previously stated, the mucous patch on the dorsum may have a corresponding plaque on the hard palate. Fissures as a rule are situated laterally, are sensitive to the touch, and may be single or multiple.

Chancre of the tongue may be single or double; it usually occurs at or near the tip; it commences as a hard "lump," which soon softens and ulcerates. It attacks both sexes. The lymphatic glands in anatomic relation are soon involved. The history, the occurrence of secondary lesions, and the response to antisyphilitic treatment give a further cue in doubtful cases.

Gummata may be single or multiple, superficial or deep, and are usually located on the dorsum of the tongue. They may either fade away under appropriate treatment or lead to deep destructive and ulcerative processes. The lymphatic glands are rarely affected as compared with chancre and carcinoma.

Carcinoma of the tongue attacks males more frequently than females and is usually situated at the sides; it is single, with a hard, indurated base and with everted margins, occurring at an advanced period of life. The lymphatic glands in the neighborhood are enlarged.

Tuberculous ulcerations occur in patients with a phthisical history, and are generally situated near the tip; they may be single or multiple and are usually, though by no means always, painful. Their edges are ragged, irregular, undermined and not surrounded by induration. The lymphatic glands may or may not be involved. The presence of the tubercle bacilli dispels all doubt.

But with all this differentiation one must often have recourse to the microscope in order to settle definitely the syphilitic, cancerous or tuberculous nature of certain ulcerations of the tongue.

In conclusion, the oral cavity may be the seat of such rare conditions as lupus vulgaris and erythematosus, erysipelas, angioneurotic edema, lichen planus, xeroderma pigmentosum,[1] and lesions of zoster, pemphigus, and leprosy.

GASTRO-ENTEROSTOMY WITH ENTERO-ANASTOMOSIS BY BRAUN'S AND GALLET'S METHODS. REPORT OF FIVE SUCCESSFUL CASES.[2]

By ROBERT F. WEIR, M.D.,
OF NEW YORK;
PROFESSOR OF SURGERY IN THE COLLEGE OF PHYSICIANS AND SURGEONS, COLUMBIA UNIVERSITY.

In March of last year, and before this Section, I presented a specimen illustrative of gastro-enterostomy, performed on the posterior wall of the stomach, and supplemented by an additional opening (entero-enterostomy) between the ascending and descending portions of the jejunum, some four to six inches from its attachment to the stomach.[3]

FIG. 1.

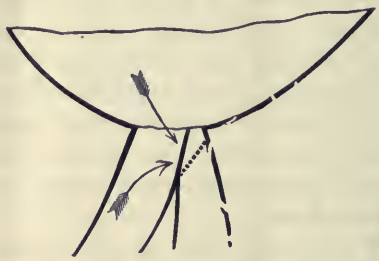


FIG. 2.

This was the suggestion of the German surgeon, Braun, and was intended to obviate the risks of the bile and pancreative obstruction that so often obtained in the ordinary gastro-enterostomy, and more

[1] Hallock, "Angio-Neurotic Edema of the Tongue," *Atlantic Medical Weekly*, July 16, 1898. Haynes, *New York Medical Journal*, December 25, 1897.

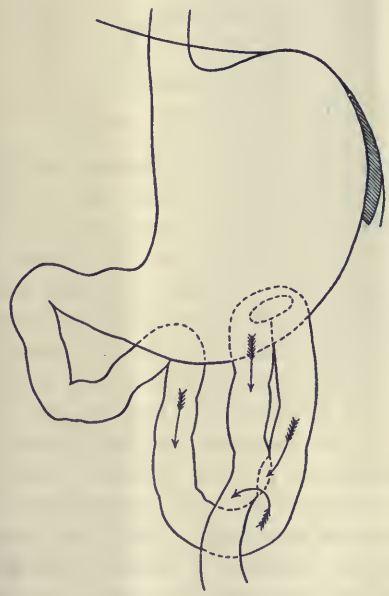
[2] Read at a Meeting of the Surgical Section of the New York Academy of Medicine, March 13, 1899.

[3] "On the Operation of Gastro-enterostomy, Combined with Entero-anastomosis," *Medical Record*, April 16, 1898.

particularly when this opening was made on the anterior face of the stomach. A report by Kappler[1] since that date has explained more clearly why every method of simple gastro-enterostomy is liable to produce obstruction. This mishap is easily understood by the diagrams that he gives, and which are here reproduced in outline. (Figs. 1 and 2.)

It will be seen that the pressure of the filled afferent bowel tends to shut off the mouth of the descending jejunum, owing to the mobility of the spur necessarily formed by the pendant intestine. Moreover, the outflow from the stomach, unless the spur hangs true in the middle or inclines to the afferent or upper opening, is also likely at times to be shut off by the same valve-like action. This, with the other reasons advanced in the paper then presented to this Section, led me to strongly advocate Braun's suggestion of a supplementary anastomosis (Fig. 3) which was also advised by the French surgeon Jaboulay, with the remark in reservation that time and experience could alone determine whether the additional opening made in the intestinal walls by the second or safety button added seriously to the surgical risk of the patient. In the specimen I then presented of carcinoma of the pylorus, for which a

FIG. 3.



Braun-Jaboulay's gastro-anastomosis with entero-anastomosis.

gastro-enterostomy had been supplemented by an enterostomy, death resulted four days after the operation, from pneumonia of supposed ether origin (though such a termination has also been remarked after a cocain operation). The field of operation was found absolutely free from any evidence of inflammation, and no signs of biliary or pancreatic obstruction had shown themselves by vomiting, etc., during life. Since that time I have had occasion to resort to gastro enterostomy in five instances. In one

FIG. 4.

Method of posterior gastro-enterostomy of Van Hacker.

of these a simple posterior gastro-enterostomy by Von Hacker's method was resorted to (patient shown). In this case there was a marked pyloric stenosis of a benign character, without appreciable tumor, due to healed ulcerations, and with extensive thickening and posterior external adhesions. Large fibrous pyloric stenosis with posterior adhesions with much dilatation of the stomach were found at the laparotomy, March 2, 1898. The Murphy button used was evacuated on the thirteenth day, and the recovery was without an untoward symptom. The patient has since gained twenty-two pounds in weight, and now, eleven months after the operation, is in good health and condition.

In the other cases, four in number, not only was the regular posterior gastro-enterostomy (Fig. 4) done, but an entero-enterostomy was added to this surgical procedure. Recovery took place in all of these, and in none was there the slightest gastric disturbance or other evidence of bile obstruction or overflow. The Murphy buttons, medium and small, that were employed were discharged, in all save in one case, from the tenth to the fourteenth day, and in each case the modified button,[1] with its enlarged intestinal end, was used to prevent slipping into the stomach. In the case excepted, though the feces were ordered to be inspected after the seventh day, the buttons did not appear, and one month later,

[1] Kappler, "Ueber Gastro-enterostomie," *Deut. Zeit. f. Chir.*, Bd. 47, Hft. 2 and 3.

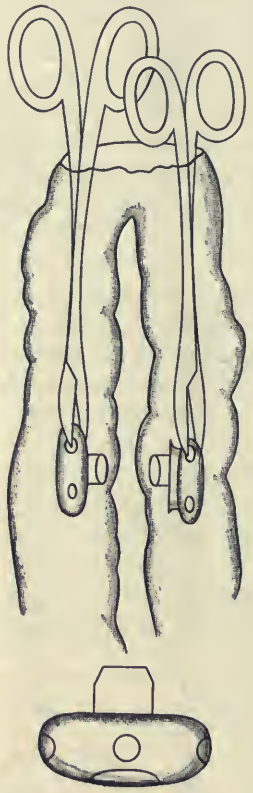
[1] *Op. cit.*, *Medical Record*, April 16, 1898.

though no gastric or intestinal symptoms presented themselves, the patient was tested by an X-ray picture, and at first no button could be found, but a better exposure revealed it subsequently to be in the stomach. He is yet in good condition, and without gastric symptoms.

Of these four cases two subjects had benign pyloric stenosis with corresponding dilatation of the stomach, and without any external evidence of a tumor. The two others had carcinoma of the stomach, in one affecting and stenosing the pylorus, and in the other mainly involving the adjacent greater curvature near the pylorus, which it invaded to a moderate degree. In this latter case, which had been, as were the others, previously accurately diagnosed by Dr. C. S. Fischer, who kindly referred the patients to me, there was but slight dilatation of the stomach. This, with the fact that posterior adhesions existed, rendered the posterior gastro-enterostomy part of the operation the most difficult one I have yet encountered, but his subsequent progress was as good as that of any of the others. In his case, operated on in November, 1898, there are now some signs reappearing of gastric irritation after a decided absence and after a gain of thirty pounds in flesh. In the other malignant case the patient gained some thirty pounds, but four months afterward succumbed from an extension of his disease. In all these cases, too, was Carle's [1] rather than Murphy's method resorted to in closing up the intestinal opening about the button. In other words, instead of using a purse-string suture, as Murphy advises, Carle employed one or more Lembert sutures for this purpose. This makes, and I found it to be so, smoother surfaces to be apposed to each other than by the purse-string method, and occupies no more time.

In the last case but one in which I operated by this method of Braun I ventured on some modifications. It was in the one alluded to in speaking of a lost button, and where benign pyloric stenosis with dilatation existed. Usually the loop of the jejunum is opened first, the enlarged half of the button is inserted, fastened by sutures, and held by forceps in the hand of an assistant until wanted, and then the opening in the stomach is similarly made, and the gastro-enterostomy completed. After this is done the insertion of the second button, the entero-enterostomy, is accomplished by duly incising and treating each wall of the chosen part of the jejunum. Gallet of Brussels has, however, recently [2] suggested that as soon as the opening has been made in the loop of the jejunum for the initial step of the gastro-enterostomy, through this should be carried on a catch forceps (Fig. 5) one-half of the smaller button

Fig. 5.



Gallet's method of entero-anastomosis.

for the entero-enterostomy, down one leg of the loop to a desired depth, and the other half of the button on another catch forceps down the other leg of the loop, and when opposite to each other they should be pushed together, crushing or cutting, as it may be, through the intervening doubled intestinal walls. This I found could be easily done, especially as I had taken the precaution to have the invaginating cylinder ends of the buttons bevelled to almost a cutting edge (see diagram) which allowed a very ready perforation of the intestinal walls. This maneuver did away with the preliminary incisions and the need of subsequent sutures, and saved time. Then the gastro-enterostomy proper was proceeded with. In opening the stomach I also made a variation in the technic. Instead of incising the stomach an inch or more, which is demanded by a 27 mm. or medium-sized button, and which, as in the intestine, is generally found to be overlarge, I made a very small cut the width of a knife-blade, and then enlarged this opening by a uterine dilator, and with it *in situ* pushed into the stomach half of the button held securely by the proper forceps. This scheme

[1] *Arch. f. Klin. Chir.*, Bd. 56, Hft. 1, 1898.
[2] Gallet, *Rev. de Chirurg.*, No. II., p. 1110, 1898, and before him Jonnesco, 1896, and Deroque, 1897.

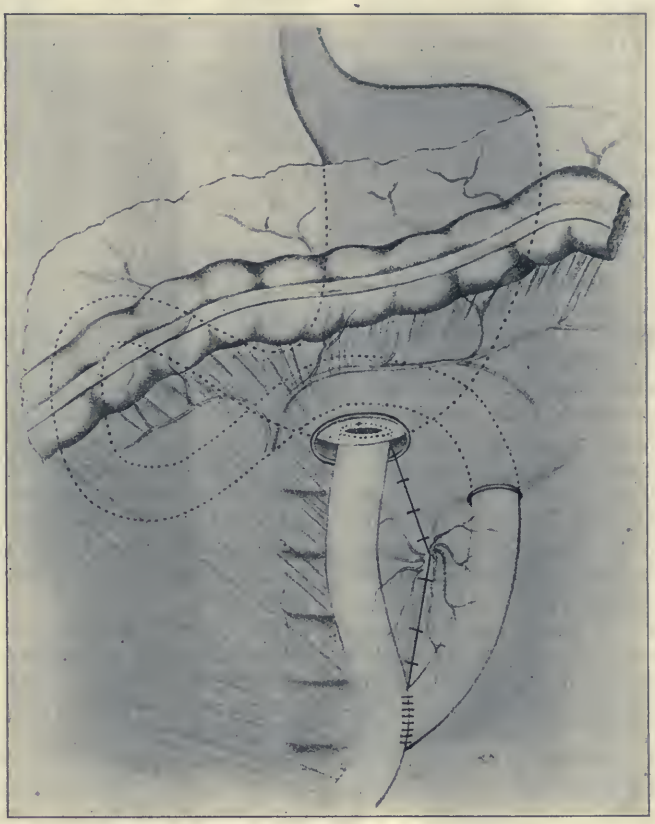
answered well in this instance at the operation itself, but whether it will prove of material service in other cases remains to be seen, and whether it contributed by its laceration to the dropping of the button into the stomach, which occurred, I cannot say, but this outcome will prevent my repeating this maneuver.

So far, the preceding experience, though not great, leans strongly in support of the dictum of Chaput, Roux, and other French surgeons, that a special route should always be provided for the carrying off of the pancreatic and biliary discharges when a gastro-enterostomy is resorted to. Whether this shall be done by an entero-enterostomy, by a Murphy button, which I prefer myself, or by a special intestinal suture-implantation, as Roux advises (Fig. 6), is to be determined in the future. It certainly is a marked contrast to my seven previously reported anterior and posterior gastro-enterostomies wherein I had four deaths, three of which resulted from the obstruction arising from a faulty technic; in other words, from the absence of an additional or safety opening into the jejunum below the stomach opening.

The following is a synopsis of the preceding cases:

CASE I. *Benign Pyloric Stenosis with Dilatation. Posterior Gastro-enterostomy.* — Male, aged forty-four years, cigar-maker. Severe intermittent gastric pains aggravated by eating. Duration four years. Loss of weight fourteen pounds. Vomiting occasional. Stomach dilated to two inches below umbilicus. No tumor to be felt. Lavage showed residue of meals of the day before Hyperacidity present, ranging from 0.7 to 1.5 per 1000 hydrochloric acid. Gastric muscular movements active on tube stimulation. Diagnosis by Dr. C. S. Fischer of benign pyloric obstruction and spasm.

FIG. 6.



Roux's method of gastro-enterostomy.

Laparotomy; median incision; March 26, 1898. Pylorus fibrous, 1½ inches in diameter; adherent posteriorly. Posterior gastro-enterostomy with medium-sized Murphy button resorted to. Excess of wounds closed by Carle's method. After the gastro-enterostomy was completed, an entero-enterostomy was done with the smallest Murphy button in the portion of the jejunum ascending and descending from the gastro-enterostomy, and distant from it about four inches. The patient did well. Both buttons were discharged on the thirteenth day. Since then patient has gained twenty-two pounds in flesh, and is free from gastric symptoms. Gastric dilatation very much lessened.

CASE II. *Carcinoma of Pylorus. Gastro-enterostomy with Entero-anastomosis. Recovery.*—Male, aged forty five years, under the care of Dr. McCoy of Paterson, N. J. Symptoms of gastric pain and vomiting had existed for more than a year, with loss of flesh and strength. For the previous three months a movable, irregular-shaped tumor to right of median line, above the umbilicus, was found. With this a markedly dilated stomach existed. No hydrochloric acid found in lavage after a test meal. Diagnosis of malignant stenosis of pylorus with dilatation.

May 16, 1898, an exploratory laparotomy was performed. A neoplasm of the pylorus, 1½ by 3 inches in size, nodular and attached to the transverse colon, and with glandular involvement and infiltration in the adjacent tissues was found. Advised and performed posterior gastro enterostomy with an additional entero-anastomosis after Braun's method. The patient did perfectly well. The buttons were discharged on the thirteenth and fourteenth days, respectively. His weight increased during the next five months more than thirty pounds. Then he began to have some recurrence of gastric irritation. This persisting, his surgeon explored by laparotomy, hoping to be able by a pylorectomy to further relieve him, but so much infiltration had occurred that the operation was properly abandoned and the wound was closed. The patient did not long survive this surgical effort.

CASE III. *Carcinoma of Stomach. Gastro-enterostomy with Entero-anastomosis.*—Male, thirty-three years old. For three years past had had more or less persistent vomiting, usually without pain, with, of late, increasing weakness and loss of weight. Paroxysmal epigastric pain had come on, which was aggravated by eating. Occasionally slight amount of blood in vomited matters and in the stools. Food remained abnormally long in the stomach, twelve to fourteen hours. A small, movable tumor was recognized slightly to the left of the median line. Stomach apparently but little dilated. Entire absence of free hydrochloric acid. No peptic ferments. Abundant lactic acid. Gastric motility impaired. Diagnosed by Dr. Fischer to be a neoplasm of the stomach but slightly involving the pylorus and without dilatation.

Operation, November 19, 1898. Median incision. Nothing felt at pylorus or on anterior wall, but on tearing through gastro-colic omentum for exploration a mass, thick and irregular, 2 by 2½ inches, was found on the posterior gastric wall reaching up to, and only moderately involving the pylorus. The rest of the stomach was much contracted and held down at its lower part posteriorly by adhesions. A posterior gastro-enterostomy was undertaken through the usual route of the colic mesentery, but its accomplishment proved to be very difficult from the inability to draw the stomach forward. After it was performed an entero-anastomosis was resorted to some 5 inches from the stomach, and the abdominal wound closed. The patient reacted well and progressed most favorably. The buttons were discharged on the tenth and eleventh days. He has gained since then more than fifty pounds in weight.

Here it was proposed to first establish the gastro-enterostomy and then to perform later, if it was deemed best, a resection of the stomach. The man's improvement has been so marked, and so thoroughly free from symptoms of gastric difficulty that the possibility of an error in diagnosis comes up and the idea can now be entertainedt that the area of supposed neoplasm was made up of the inflamed base of one or more peptic ulcerations, or, possibly, of a gumma, as he had had syphilis.

CASE IV. *Benign Stenosis of the Pylorus. Gastro-enterostomy and Entero-anastomosis by Gallet's Method.*—Male, thirty-four years of age, with a history extending over nine months of gastric paroxysmal pains and distress, which were most felt after meals. Pains were cramp-like. Vomiting large in quantity. When the stomach was distended it reached some three inches below the umbilicus. Motility was marked and could be seen to run in waves transversely across the stomach. Food was found in the stomach after twenty-four-hours' fasting. Free hydrochloric acid 0.5 to 2.0. Pepsin normal. Putrefaction and fermentation of the stomach contents were marked. Diagnosed by Dr. Fischer as a benign pyloric stenosis with dilatation, and either hypertrophic or spastic stomach. This was confirmed at a laparotomy, December 15, 1898. A posterior gastro-enterostomy with entero-anastomosis was resorted to; but the latter step was carried out first by the plan suggested by Gallet of Brussels and described in the text (see Fig. 4). For the stomach opening a small puncture was made with an ordinary scalpel, and through this was introduced a uterine dilator and its lumen stretched until the Murphy button, 27 mm. in diameter, could be introduced into the stomach. The approximation of the two halves of the button was then completed.

The patient, for two or three days after the operation, had some temperature elevation and gulping of wind, but nothing wrong was felt in the epigastrium. Beyond this he progressed satisfactorily, but though after the seventh day the stools were daily inspected no trace of the two Murphy buttons employed, one for the gastro-enterostomy and one for the entero-anastomosis, was discovered up to six weeks after the operation, when the patient, being in fine condition, was eating and digesting well, and gaining rapidly in weight and strength. An X-ray examination revealed the larger button, recognized by its flange, to be held just above the edge of the ribs on the left side in the posterior portion of the normal splenic flexure of the colon. This, however, would represent also the situation of a yet dilated stomach, so that in all probability the lost button is in the patient's stomach, where it is doing no harm. Concerning this it may be remarked that they have been left in for two years without damage. No trace was obtained of the smaller button.

CASE V. *Dilatation of the Stomach, without Pyloric Stenosis, with Movable Kidney. Gastro-enterostomy and Entero-anastomosis by Gallet's Method.*—Mrs.

B., forty years of age. For twenty years the patient had had remittent attacks of distress after eating, associated with large eructations, vertigo, headache and lassitude, though without much loss of strength or weight. Stomach was dilated vertically; its great curvature was 2½ inches below the umbilicus and to the left. Lesser curvature normal. Slight peristaltic action at times visible. Motility greatly impaired. Quantities of putrefying and fermenting material found in the stomach when it normally should have been empty. Total acidity 2.0–2.4 per 1000. Free hydrochloric acid 0.1–1.1 per 1000. Organic acids, butyric and lactic, always present.

FIG. 7.

Forceps designed by Dr. Turnure for use in Gallet's method of entero-anastomosis.

Peptic ferments normal. Diagnosis by Dr. Fischer: dilatation from atony without pyloric obstruction, probably of neurotic origin. The patient also had an enlarged, tender and movable right kidney with a small amount of pus in her urine.

March 7, 1899, median laparotomy revealed no abnormality of the pylorus but a greatly dilated stomach. A Gallet's entero-anastomosis was first performed after opening the desired loop of the jejunum, and then a gastro-enterostomy, and the parietal wound closed. Her progress was satisfactory and uneventful.[1]

It is yet too early to speak of the outcome of this interesting case, which is a type of many that are only temporarily relieved by lavage and other methods. It is possible from the existence of the kidney dislocation that this displacement has begotten the gastric trouble, and that a secondary nephrorrhaphy may be necessary, but it was judged best to attack the stomach difficulty first. As the lesser gastric curvature was normally situated no attempt was made to raise the stomach or to anchor it in view of the possible action of a gastroptosis. It may also be recorded as corroborating the experience of others that in the two other cases of benign stenosis since the operation the size of the stomach has materially lessened and the motility has increased, demonstrating the diminution of the atonic condition. It is the thorough emptying of the stomach in the last detailed case that gives hope of a restored or improved functional activity of the previously overstretched viscus.

I submit also a diagram (Fig. 7) of a forceps, designed by Dr. Turnure, one of my hospital internes, as an aid in carrying out Gallet's method of entero-anastomosis. The instrument is a simplification of that proposed by Duroque in 1897.

A CONTRIBUTION TO THE STUDY OF CEREBROSPINAL MENINGITIS.[2]

BY LEWIS A. CONNER, M.D.,
OF NEW YORK;
ATTENDING PHYSICIAN TO THE HUDSON STREET HOSPITAL; ASSISTANT PATHOLOGIST TO THE NEW YORK HOSPITAL; INSTRUCTOR IN MEDICINE IN THE CORNELL UNIVERSITY MEDICAL COLLEGE.

EVERY year in any of the large hospitals in this city there may be seen a certain number of cases of cerebrospinal meningitis which are manifestly primary, or idiopathic, in origin. In certain years these cases are so considerably increased in number as to constitute a distinct epidemic. This was the case in 1893. This paper is based upon the study of 60 such cases, 13 of which have occurred during the last four years in my own service at the Hudson Street Hospital, and the remaining 47 cases during the last six years at the New York Hospital. It is through the courtesy of the attending physicians to the latter institution, Drs. G. L. Peabody, A. B. Ball, H. P. Loomis, and S. W. Lambert, that I am able to add this second series of cases to my own. Every effort has been made to exclude from this list all cases in which there seemed any ground what-

[1] The larger button was discharged per rectum on the twenty-first day. The smaller one has not yet been found in the feces.

[2] Read before the New York Neurological Society, January 3, 1899.

ever for the belief that the meningeal inflammation was secondary to infective processes elsewhere in the body. In this way a large number of cases of meningitis following pneumonia, empyema, ulcerative endocarditis, middle-ear disease, pyemia, and tuberculosis have been discarded.

By far the most important work of recent years on the subject of epidemic meningitis is that which recently appeared as a report of the Massachusetts State Board of Health upon the recent epidemic in the vicinity of Boston by Councilman, Mallory, and Wright.[1] In this report the very elaborate and careful description of the histologic and bacteriologic findings is especially valuable, and will be referred to later.

The post-mortem examinations in the cases here reported were made either by Dr. George P. Biggs, the pathologist of the New York Hospital, or by myself.

Etiology.—Of the 60 cases, 21 occurred in 1893 (a year in which the disease seemed especially prevalent in various parts of the country), 5 occurred in 1894, 8 in 1895, 6 in 1896, 10 in 1897, and 10 have occurred during the year just past.

Season.—One-half of all the cases developed during the spring months of March, April, and May. Twelve cases appeared during the summer months, 10 in the fall, and 8 during the winter months.

Sex.—Forty-two (or seventy per cent.) of the cases occurred in the male sex.

Age.—Thirty-two per cent. of the patients were under fifteen years of age; forty-three per cent. were between the ages of fifteen and thirty, and twenty-five per cent. were over thirty years of age. The youngest case was that of a child of two months;* the oldest was that of a woman of sixty-five years. The male patients were, as a rule, vigorous, robust persons whose occupations kept them out of doors much of the time—laborers, longshoremen, etc. In only one case was there a distinct history of exposure to cold or wet preceding the attack. In this case the exposure had occurred on the day before the onset. Two of the patients were hospital nurses, but neither had been in attendance upon a case of meningitis. No two of the cases came from the same family, but two young negro laborers who occupied the same room in a lodging house were attacked by the disease within a few hours of each other, and both died within four days of the onset. In two cases (XIII. and XXXVIII.) the symptoms developed after exposure to the hot sun. One of these cases behaved like a case of sunstroke. The patient was brought to the hospital in deep coma, with a temperature of 105.6° F., and the symptoms of meningitis were not recognized until the following day. He died at the end of two months, and the diplococcus intracellularis was found in the meningeal exudate at autopsy.

Post-mortem Appearances.—A post-mortem examination was made in eighteen of the forty-one fatal cases. The appearances of the meninges varied greatly in the different cases, as might be supposed. In the very acute cases marked injection of the meningeal vessels was the most noticeable feature, while the exudate was usually slight in amount, and sometimes was hardly apparent to the naked eye. Cases lasting a week or two usually showed an abundant purulent or fibrino-purulent exudate over the base, beneath the arachnoid, in the sulci, and along the course of the vessels of the convexity; but great variation was seen in the quantity, the distribution, and the character of the exudate.

In the two chronic cases examined the purulent exudate was less abundant, and the thickening and opacity of the arachnoid more evident. In all the cases the exudate over the convexity was seen chiefly in the meshes of the pia, in the sulci, and along the course of the blood-vessels. The lateral ventricles in many of the cases were distended with clear or slightly turbid fluid to such an extent as to cause noticeable flattening of the convolutions, and the ependyma was granular, opaque, and evidently involved in the inflammation. The choroid plexus often showed infiltration of pus and fibrin.

In the cord the greatest involvement was usually in the dorsal and lumbar portions, and always upon the posterior surface. Microscopic examination showed in addition to the meningeal exudate an often extensive involvement of the subjacent brain tissue as seen in the engorgement of the vessels and in the round-cell infiltration, especially along the course of the smaller vessels. The constant involvement of the cranial nerves in the inflammatory process was shown in the few cases in which they were examined. Councilman, Mallory, and Wright, in their very careful description of the microscopic changes, describe the lesions of epidemic meningitis as differing from those of other forms; in the smaller production of fibrin, in the presence in the exudate of a considerable number of large cells often enclosing several leucocytes; in the relatively small amount of endarteritis, and finally, in the greater participation of the brain substance in the inflammatory process, with proliferative changes in the neuroglia and degenerative changes in the ganglion cells and the nerve fibers.

* The character of the meningitis in this case was not proven by autopsy, but since writing this paper a child, aged two months, has died at the New York Hospital, in whom the primary nature of the meningitis was shown by the post-mortem findings, and in which cultures of the diplococcus intracellularis meningitidis were obtained.

Bacteriology.—Councilman and his associates, as a result of their investigations, are convinced that the specific cause of epidemic cerebrospinal meningitis is the diplococcus intracellularis meningitidis, first accurately described and named by Weichselbaum in 1887. In thirty-five post-mortem examinations made by them this organism was found in all but four cases in cultures, in cover-slip examinations of the exudate, or in sections. The organism is found almost altogether in the pus-cells of the exudate. It is composed of two hemispherical portions separated by an unstaining interval and resembles closely the gonococcus. It shows no capsule and is decolorized by Gram's method of staining. It is an ærobic bacterium, but grows scantily and with difficulty on most media. Blood-serum agar was found to be the medium best suited for its growth.

Earlier investigators, Weichselbaum,[2] Jäger,[3] Heubner,[4] Peterson,[5] and others, found the same or a very similar organism in certain of the epidemics, but the weight of evidence hitherto has seemed to support the belief that the specific organism in most of the epidemics and in most of the sporadic cases is the micrococcus lanceolatus or pneumococcus.

Flexner and Barker[6] in their admirable account of the Lonaconing epidemic in 1893 summarize the matter as follows: "The number of bacteriological examinations of uncomplicated cases of meningitis occurring either sporadically or in epidemic form is, up to the present time, not large. There is, however, such uniformity in the results obtained that while it is, perhaps, not to be considered as established for all, yet the majority of cases appear to be caused by an organism which, in its morphological characters and biological properties, is not to be distinguished from the micrococcus lanceolatus." Latimer,[7] writing as late as 1896, arrives at the same conclusion.

A bacteriological examination was made in ten of the present cases which came to autopsy. In three of these the cultures remained sterile; in one case a pure growth of streptococci was obtained; in one (associated with hemorrhage into and about the pancreas) a mixed growth of pneumococci and streptococci was found. In one case the diplococcus intracellularis was found in cover-slip examinations, but the cultures remained sterile. In the remaining four cases examinations of the pus and culture growths showed a micrococcus which, in its morphologic and culture qualities, appeared identical with the pneumococcus. In two recent acute cases in which there was no autopsy, lumbar puncture was made. In one, cover-slip examinations showed a very few diplococci intracellulares. In the second case no organism could be found. A considerable number of cultures from both cases upon blood-serum, glycerin-agar, and plain agar, and in bouillon were made with negative results. In the three autopsies in which the culture results were negative only the ordinary culture media were used, and in view of the now recognized difficulty of growing the diplococcus intracellularis in such media it seems not unlikely that these were all cases of that form of infection.

There can be no doubt that certain epidemics have for their specific micro-organism the diplococcus intracellularis. There seems to be, however, incontrovertible evidence to show that in certain other epidemics the micrococcus lanceolatus stands in causal relation to the disease; while in the sporadic cases reported the micrococcus lanceolatus has been found in much the greater number. Councilman and his associates believe that in every case of epidemic meningitis the exciting agent is the diplococcus intracellularis and that the pneumococcus bears no relation to this disease but that *it* excites a meningitis which is usually secondary to pneumococcus inflammations elsewhere in the body, and that this type of meningitis can be distinguished histologically from the epidemic form.

It seems to me that this view cannot be accepted unreservedly without disqualifying the results of many trustworthy observers, and that at the present time there seems reason to believe that both the diplococcus intracellularis and the micrococcus lanceolatus can give rise to primary cerebrospinal meningitides, which clinically cannot be differentiated, and which, under certain favorable conditions, may appear in the form of epidemics.

Types of the Disease.—All the varieties usually described—the fulminant, the abortive, the acute, the intermittent, and the typhoid or chronic—were represented in the present series of cases. Including in the fulminant type those cases which run a fatal course in about two days, or in less, there were seven cases of that form. The shortest was one lasting twenty-one hours. These cases were all marked by violent and early delirium and coma. Of the abortive type there were two fairly typical examples. Twenty-six cases ran their course within two weeks and may be termed *acute.* No one of these recovered. There were two examples of the intermittent type in which, during the latter part of the disease, the gradual improvement was interrupted periodically by a return, for a short time, of all the symptoms. Thirteen of the cases extended over periods longer than one month and are to be classed with the chronic type. Of these thirteen patients eleven recovered. The longest case, a child of five, recovered at the end of three and one-half months.

Onset.—The onset was sudden in thirty-nine of the cases. The first symptom in four cases was one or more general convulsions. In one case it was sudden violent delirium; in two cases, sudden unconsciousness and coma. Four of the cases began with sudden development of a peculiar mental state in which violent, irrational acts alternated with periods of quiet and apparent rationality. One of these patients (No. IV.), while apparently well, began to destroy the furniture in his room. When taken to the hospital by the ambulance he would be, for some minutes, quiet and obedient and would talk rationally, and then suddenly would begin to fight and struggle violently. His temperature remained normal for some hours after admission, and as there was a history of severe mental shock on the day preceding, the case was not unnaturally looked upon at first as one of hysteria. His temperature soon rose, however, coma developed, and the patient died forty-six hours after the beginning of the attack. Autopsy confirmed the later diagnosis of meningitis. In another of these four cases the admission diagnosis was hysteria.

One or several attacks of vomiting ushered in the disease in six cases. In fourteen cases the disease began with a distinct rigor. In seven it began with sudden and violent headache. In one case an attack of dizziness was the first symptom.

When the onset was gradual the symptoms, in children, were usually restlessness, irritability, fever, prostration, and gradually increasing pain in the head and neck. In adults there was a gradually increasing headache, prostration, pain in the neck, and often vomiting.

Temperature.—Although the temperature curves in the different cases varied enormously, and although on most charts the irregularity was the most striking feature, yet it has seemed possible to recognize several fairly distinct types.

1. A number of cases were seen in which the temperature was normal or subnormal throughout the disease or up to within a few hours of death. None of these patients recovered.

2. Cases in which the temperature was high from the onset, and continued so until death or gradually fell until recovery.

3. Those in which the temperature rose gradually, maintained for some days a moderate height, and gradually fell whether the patient died or recovered. These charts occasionally resembled those of typhoid fever, but they usually displayed a less regular diurnal variation with a greater excursion. Not infrequently would the highest temperature be in the morning.

In the chronic cases the temperature usually ran a low course in the latter part of the disease. In the fulminant cases, when the patients had been brought to the hospital, their temperature was sometimes normal for a few hours, but in every case it rose rapidly, and remained high until death.

Pulse.—The pulse displayed the same marked variation in the different cases as did the temperature, but its behavior, as a rule, seemed to bear no relation to the height of the temperature. Usually, it was very considerably increased in rate, and diminished in force. Retardation of the pulse was by no means a common occurrence. In only four or five cases was it present for any length of time. In two cases, however, it persisted throughout almost the whole course of the disease. Toward the latter part of the disease great irregularity of rhythm and sudden violent changes in rate were common. The pulse was usually of very low tension, and often showed great irregularities of force as well as in rhythm.

Respiration.—In patients displaying active symptoms a very considerable increase in the respiratory rate was an almost constant symptom. This was especially noticeable, as might be supposed, in children, and respirations of 50 or 60 per minute were by no means uncommon in them. In the chronic cases the respiratory rate varied but slightly from the normal. Toward the end of the disease, in fatal cases, Cheyne-Stokes breathing and irregular types were not infrequently seen.

Vomiting was present at some time in the disease in more than one-half of the cases. In twenty-five it appeared at he onset; in thirteen cases only at that time. In fourteen cases it persisted throughout and constituted an important feature of the disease. In some cases it seemed to bear no relation to an ingestion of food, recurring at irregular intervals, and without evident exciting cause. In one case, which at the onset resembled acute gastro-enteritis, there was vomiting of blood. In no case was the vomiting described as "projectile."

Constipation was the usual condition, but diarrhea, sometimes severe, was present in some cases.

Sensory Phenomena.—Pain of greater or less severity was present at some time in almost every instance. Headache was much the commonest form. This usually appeared very early, and was apt to be constant and severe. Occasionally it would be slow in its development, and would never become a prominent symptom. It was most often occipital; sometimes it would seem to involve the whole head, and occasionally it was chiefly frontal. Pain at the nape of the neck usually accompanied the headache, and sometimes was the more prominent of the two symptoms. Aside from these two

common sites of pain, it was not infrequently referred to the back, limbs, joints, abdomen, and chest. Occasionally it was confined to, or was more marked upon, one side of the body.

Tenderness on deep pressure over the upper cervical vertebræ was extremely common. Sometimes it was present over the whole of the vertebral column, and not infrequently it was evident upon tapping the head. In a certain number of cases, especially among children, general hyperesthesia was a conspicuous symptom.

The *reflexes* presented no constant feature. In many instances they seemed quite normal; in others both the deep and superficial reflexes were lost; in still others they were exaggerated.

Photophobia appeared as a prominent symptom in six cases, and was present in lesser degree in many others.

In one case there was anesthesia of the whole of both lower extremities.

Motor Symptoms.—Greater or less rigidity of the muscles of the neck and back was present in almost every case. It usually appeared very early and persisted throughout the course of the disease. In twelve cases there was marked retraction of the head, in addition to the rigidity, and in two cases distinct opisthotonos. A certain amount of rigidity of all four extremities with flexed position of the limbs was common. Rigidity of one-half of the body, with convulsive movements of the other half, occurred in two cases. Severe general convulsions were present in eight cases; in four of these the convulsions ushered in the disease. Muscular twitchings, general, or confined to one side, were observed in nine cases.

The paralytic phenomena included paralysis of all four extremities, of both lower extremities, two cases of hemiplegia (one with involvement of the face and tongue), and paralysis of both upper extremities alone. The motor symptoms of the eyes included convergent strabismus in seven cases, divergent strabismus in two cases, lateral nystagmus in five, conjugate deviation in four, and slight ptosis in one case. The pupils often showed no abnormalities. They were much more apt to be contracted than dilated. Occasionally, they failed to react to light. In a few cases there was marked inequality.

Mental Symptoms.—These included almost every grade of abnormality from simple drowsiness to profound coma, and from slight "flightiness" at night to constant violent delirium. In the case of one patient who recovered consciousness was preserved throughout; in another case, lasting two weeks, there was perfect consciousness up to within a few hours of death. In the fulminant cases delirium or coma was present almost from the beginning. In most of the chronic cases, even of the fatal ones, there were apt to be considerable periods of consciousness during the middle and latter part of the illness. In a large proportion of the cases there were alternating periods of delirium and stupor. The onset of the disease was marked in four cases by a peculiar mental state which was twice mistaken for hysteria.

Eruptions.—Skin lesions of some sort were observed in sixteen of the cases (twenty-seven per cent.). These were most frequently in the form of an eruption of herpetic vesicles confined, usually, to the lips and nose, but occasionally involving a considerable portion of the face and head, and in one case appearing on the back as well. Large urticarial wheals over the entire body were present in one case during the first three days of the disease. These could be produced anywhere by drawing a fingernail over the skin. A hemorrhagic eruption was seen three times. In two cases it consisted of a profuse petechial rash extending over the trunk and extremities. In the third case a macular rash appeared over the trunk, extremities, and very profusely over the face. This became hemorrhagic over the hands and feet, and small hemorrhagic spots appeared in the mucous membrane of the hard and soft palate. Another eruption appeared on the twelfth day as a profuse papular rash over the chest, abdomen, and neck. This soon became vesicular and later pustular, resembling considerably the rash of smallpox, but without umbilication. *Tache cerebrale* was present in many of the cases. A slight jaundice was once seen.

The Blood.—While the blood was not examined in many of the earlier cases, in all the later ones in which it was sought a distinct leucocytosis was observed. Occasionally this was only slight, but usually there was a very considerable increase in the white cells. Blood-counts were made in thirty-three of Councilman's cases, with the result of finding a leucocytosis in every case. This leucocytosis is probably present in all cases of purulent meningitis, from whatever cause, and is not distinctive of the epidemic or primary form.

Spleen.—In fourteen of the cases (twenty-three per cent.) a distinct enlargement of the spleen was recognized clinically or at autopsy. The increase was usually only moderate, but in several instances it was very considerable and the organ could readily be felt some distance below the free border of the ribs. It was usually very soft.

Eyes.—The motor phenomena observed have already been mentioned. In none of the patients who recovered was there disturbance of vision subse-

quently. Unfortunately an ophthalmoscopic examination was made in only a very few cases. In one of these, a chronic case, there was a well-marked optic neuritis which developed four weeks after the onset. No other eye lesions were recorded.

Ears.—Pain referred to the ears was present in several cases, but in none did examination show evidence of middle-ear disease, although observers have mentioned this as a not infrequent complication. In two cases there was bilateral deafness. One of these patients recovered completely and the other had improved somewhat when discharged from the hospital.

Complications.—Involvement of the joints was seen in four cases. In three of these the appearances were those of acute articular rheumatism, with involvement of several of the large joints, and the cases were looked upon as such when first seen. In the fourth case there was a large serous effusion into the right knee-joint which disappeared at the end of ten days. Cultures from this fluid, in the ordinary media, remained sterile. The joint symptoms in every case appeared very early in the attack, usually at the onset.

Pneumonia.—Some form of pneumonia was present in seven of the cases. Two of these were apparently instances of hypostatic pneumonia and occurred as a terminal condition. The other five cases gave the usual physical signs and symptoms of lobar pneumonia. This developed in every case *after* the onset of the meningitis. In one case the pneumonia developed after convalescence had become established. Two of these patients recovered, two died without autopsy, and the fifth was removed from the hospital during the illness, so that in none of the cases was it possible to determine positively the character of the inflammation and of the exciting organism.

Nephritis.—Traces of albumin were found in the urine of a large proportion of cases. In ten of them (seventeen per cent.) there were evidences of an acute nephritis of greater or less severity. This regularly made its appearance late in the disease. In one case, a child of ten years, there suddenly developed during convalescence a violent attack of hemorrhagic nephritis, which was eventually recovered from.

Hemorrhage into the Pancreas.—A very remarkable complication (or association) was that of extensive hemorrhage into and about the pancreas. The patient (Case X.), an Italian male, aged forty-five years, after having violent headache with pain, tenderness, and rigidity of the neck for three days, became delirious, and later comatose, and died on the sixth day. The autopsy showed, beside extensive purulent exudate over the convexity, base, and cord, extensive and very recent hemorrhage into and about the head of the pancreas, the whole forming an irregular mass as large as an orange. There was neither necrosis of the pancreatic tissue nor suppuration. Cultures from the meningeal exudate showed a mixture of pneumococci and streptococci. Cultures from the blood, kidneys, liver, spleen, and pancreas remained sterile.

Diagnosis.—When the symptoms are well developed the recognition of cerebrospinal meningitis offers no difficulties. In the early days of the disease, however, a case may be very puzzling. In this series two of the cases were at first looked upon as acute articular rheumatism. Two other cases were for a time believed to be typhoid fever, and were treated as such, and two others when first seen were thought to be cases of hysteria.

The symptoms, it has seemed to me, which are most constant and most to be relied upon in the beginning of the disease are rigidity of the muscles of the back of the neck and tenderness on pressure over the cervical vertebræ. These were rarely absent.

In differentiating the cases of meningitis with gradual onset from typhoid fever, the presence of a leucocytosis and the failure of the blood to respond to Widal's reaction may furnish valuable aid, as was the case in Case LX. of this series, in which the symptoms very closely simulated those of typhoid fever, and in which the meningeal symptoms were not prominent until late in the disease.

The spleen is so frequently enlarged in meningitis that the recognition of its enlargement should not be given much weight as favoring typhoid fever. Confusion between meningitis and hysteria can, of course, exist only at the outset.

The separation of the primary form of meningitis from those which are secondary depends upon the exclusion of the various conditions which may give rise to the secondary forms, or upon the detection in the fluid obtained by lumbar puncture of the organisms associated with the primary form. The age of the patient, I believe, usually offers but little help. While it is doubtless true that in children tuberculous meningitis is more common than is the primary cerebrospinal form, yet the latter is by no means uncommon, as may be seen from the fact that thirty-two per cent. of the present series of cases occurred in children below the age of fifteen years. In a child who is free from all hereditary taint of tuberculosis, and in whom a careful examination fails to reveal evidences of tuberculosis of the lungs, lymph glands, or other structures, the chances are, I believe, in favor of a meningitis being of the primary cerebrospinal form.

Lumbar Puncture.—Much the most reliable means of diagnosis exists in the examination of the fluid obtained from the spinal canal by puncture between the lumbar vertebræ. This has now become a recognized method of diagnosis, and will often furnish valuable information at the time when it is most desired, that is, at the beginning of the disease. The procedure is not difficult, and if carefully performed is free from danger. Lumbar puncture was carried out in sixty-five of the cases of Councilman, Mallory, and Wright. In thirty-eight of these the diplococci were found either in cover slip examination or in cultures. Great difficulty was had in obtaining growths in the cultures except when large quantities of the fluid were used and many tubes inoculated, and even then the colonies were usually very few.

In both of my cases in which lumbar puncture was made the cultures remained sterile. In one a few diplococci intracellulares were found in the cover-slip preparations.*

Prognosis.—Of the patients whose cases are here reported nineteen recovered, a mortality of sixty-eight per cent. This, curiously enough, is exactly the mortality in the 111 cases reported by Councilman and his associates. Flexner and Barker state the mortality in the Lonaconing epidemic as forty per cent. In other epidemics the death-rate has ranged from twenty to seventy per cent. Most of the cases in which recovery takes place belong to the chronic type. Cases beginning with general convulsions and in which delirium and coma appear at the onset are almost always fatal. A continuous low temperature is by no means necessarily a favorable sign. In every case of this series in which the temperature was normal or subnormal throughout most of the disease the patient died.

In conclusion I wish to call attention to the comparative frequency of cerebrospinal meningitis in this city; a frequency greater than seems to be commonly supposed. These cases are by no means confined to periodical epidemics, but occur in relatively uniform numbers year after year. If they are all merely sporadic cases of the epidemic form then it must be admitted that that disease is endemic with us. The determination of the relation of these cases to the epidemic form rests almost wholly upon the careful bacteriologic examination of cases coming to autopsy and of the cerebrospinal fluid obtained during life, and it should be possible within a few years to settle the matter definitely and conclusively.

* Since this paper was written lumbar punctures have been made in two cases of meningitis at the New York Hospital and in one at the Hudson Street Hospital, and from all fairly abundant growths of the diplococcus intracellularis were obtained.

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CLINICAL LECTURE.

BRAIN INJURIES, THEIR DIAGNOSIS AND TREATMENT.[1]

BY CHARLES PHELPS, M.D.,
OF NEW YORK;
VISITING SURGEON TO BELLEVUE HOSPITAL.

I PRESENT to you two cases of brain injury, both of recent occurrence, and in both of which symptoms have been typical.

This patient, the first, a boy ten years of age, fell down a flight of stairs two days ago. He was found by the ambulance-surgeon, profoundly unconscious, with widely dilated pupils, which were irresponsive to light, a cold, pale, but not moist skin, frequent stertorous respiration, a feeble, irregular pulse of 140, and a subnormal temperature of 97°. On immediate admission to the hospital he was conscious, but could be aroused only for an instant; his pupils were moderately dilated and were responsive to light; fecal and urinary control were lost, and there was a hematoma in the right frontal region. After reaction was established, some hours later, he had several attacks of vomiting, after each of which his mental condition became brighter.

Yesterday he slept a greater part of the time, and was less stupid when awake; fecal and urinary control had been regained with the restoration of consciousness, and the pupils were normal.

To-day his temperature, pulse, and respiration are normal, and beyond a little vertigo and some weakness he is without symptoms.

There can be no doubt that this was a case of simple general contusion of the brain, with severe general shock, upon which the most urgent symptoms depended. The loss of consciousness and succeeding mental torpor, the pupillary conditions, and the later attacks of vomiting were of cerebral origin, but the feeble pulse, rapid respiration, and subnormal temperature, and the loss of fecal and urinary control may be attributed to lesion of the spinal and sympathetic centers. At first, while the extent of brain lesion was obscured by the condition of general shock, prognosis was uncertain; but the speedy return to consciousness and to normal pulse and temperature conditions without the supervention of new symptoms referable to cerebral injury, minimize the possibility of any unfavorable development in the case, though a longer time must elapse before all danger is past. Some instability of the cerebral circulation is likely to continue for

[1] A clinic conducted at Bellevue Hospital, May 23, 1899.

months, or even longer, and during that time the patient's resistance to the effects of ordinary cerebral excitement, as mental exertion or excitement, exposure to the sun's rays or to movements which may cause vertigo will be diminished.

The second patient, a man fifty years of age, was found unconscious in the street and at once brought to the hospital. He was still unconscious and there was a rather profuse hemorrhage from the right ear. The right pupil was moderately dilated and irresponsive to light. His temperature was 99.2°, his pulse 68, and his respiration 36 and a little stertorous. Consciousness was restored an hour later, and at the end of four hours hemorrhage from the ear had ceased and temperature had risen to 100°. The following day there was a general paralysis of the right side of the face which still continues. No other symptoms have been developed. Pulse temperature and respiration have been, for some days, practically normal.

The diagnosis in this case is not difficult, A fracture of the cranial base extending through the right petrous portion, some slight supradural hemorrhage in the right middle basic fossa, and probable cerebral contusion without laceration.

The fact and situation of the cranial fracture is indicated with certainty by the hemorrhage from the ear. The absence of such hemorrhage does not exclude the possibility of a fissure of the petrous portion, for the auditory canal and tympanum may remain intact, but, as a positive symptom, I believe it to be pathognomonic. I have never failed in post-mortem examination to find this fracture when there had been hemorrhage from the ear during life. I have seen but one exceptional case in which there was ruptured tympanum and external hemorrhage, from concussion, and without basic fracture; this was from a pistol-shot wound at close contact just in front of the ear. Such an instance may be regarded as belonging to a special class of fractures and constituting the sole exception to an otherwise absolute rule. Falls from enormous heights or crushing violence inflicted upon the head, so long as no fissure lays open the auditory passages, never occasion this symptom if the necropsic examination of a very large number of cases may be trusted. The one source of possible error in estimating this symptom may be excluded by a sufficiently careful examination of the external meatus in order to determine that the blood has neither trickled into the ear from the wound of the scalp nor been derived from a wound of the canal itself.

The fracture of the cranial base in its petrous portion is confirmed by the occurrence of another symptom, the facial paralysis. This condition might be due either to a central lesion or to an injury of the facial nerve during its passage through the aqueductus Fallopii. Its central origin in this instance is impossible from its late appearance and from the absence of general symptoms of cerebral laceration or limited contusion. It is evidently not due to compression by osseous displacement from the fact that it was not a primary symptom. Its occurrence on the second day after external hemorrhage had ceased points to the compression of the nerve by coagula formed in the osseous canal through which it passes to its cranial exit.

The dilatation of the pupil might be referred to a general cerebral contusion or to pressure of blood upon the third nerve in the middle fossa as described by Mr. Hutchinson. In this case it probably results from blood-pressure as the cerebral injury is slight.

A cerebral lesion undoubtedly did exist—it always exists when unconsciousness is a symptom. Even if intracranial hemorrhage is a complication, it is the interference with cerebral nutrition, back of the hemorrhage, which is the proximate cause. In the case of this man a slight general cerebral contusion probably occasioned the transient loss of consciousness, the only symptom of cerebral injury. A limited contusion is always lost in a general cerebral lesion of which it forms a part. A severe general contusion or a laceration occasions a greater rise of temperature, more extended loss of consciousness, and other symptoms of greater urgency.

The prognosis is absolutely good. No symptoms remain except the facial paralysis, which may be expected to linger. The length of time which has elapsed since the injury was received, without the development of secondary symptoms, as in the other case, is a guarantee for the future.

In such cases as these—basic fractures not of gunshot origin and cerebral contusions, cases without intracranial hemorrhage or implication of the vault—no question of operation can arise. Treatment is very simple and has only to follow symptomatic indications. If general shock is pronounced, as in the case of the boy, free hypodermic administration of heart stimulants will be demanded. In the absence of high temperatures or delirium there will be no occasion to resort to the ice-cap. Quiet, moderate liquid nourishment, and daily evacuation of the bowels are usually all that is required. If the patient is restless morphia is the preferable sedative.

Such cases, gentlemen, are not clinically sensational, but their observation and study are very useful and instructive even to the general practitioner.

CLINICAL MEMORANDUM.

ACUTE YELLOW ATROPHY OF THE LIVER.

By CHARLES H. BROWNING, M.D.,
of Oberlin, Ohio.

W. G., a negro, aged nine years, was first seen by me October 1, 1898. His mother gave the following history: The boy had always been well until the previous summer. While in the country he had had what was called an attack of dysentery lasting about ten days, with watery mucous discharges, but no blood. He seemed to recover from this, but from about the first of September complained of severe headaches. He attended school between the 5th and 17th of September, and then was kept at home because of headaches, loss of appetite, and a sense of oppression.

About the 20th of September a mild icterus appeared. He first saw a doctor on this account on Saturday the

25th. During the following week his jaundice seemed to decrease, the fecal discharges were dark in color, and he seemed to be improving. On the following Friday night he awakened with a sharp, cutting pain in the hepatic region, was nauseated, and vomited. He had at the same time some pain on the left side. The muscles of his hands and arms were cramped, more on the right side. He had muscular twitchings while asleep. During the following day there were frequent fluid evacuations of the bowels.

I saw him first during the afternoon. I found him playing about the house, quite comfortable but weakened by the thorough catharsis, and slightly nauseated. His general appearance was good; tongue moist, and quite clean. The icterus was of a moderate degree. He had a temperature of 99.4° F., and a pulse of 118. His liver was palpable 2½ fingers' breadth below the costal margin, and extended fully half way between the ensiform cartilage and the umbilicus. It was sensitive and hard. The spleen was not palpable. Three hours later he complained of sharp, sticking pains in the right hypochondrium, which were so severe as to make him hold his breath; and his fingers and forearms, especially on the right side, were contracted. I saw him half an hour later just as the paroxysm was over, and found him asleep with a temperature of 98° F., and pulse of 96. He had no chill or sweating at any time. Through the night he rested well, slept almost continually unless aroused for medicine, but talked a great deal in a low, muttering way in his sleep. Once during the night he vomited food.

On Sunday morning at ten o'clock I found him with a temperature of 100.4° F., and a pulse of 120, rhythmical and regular, quite full and bounding. He was quite drowsy, but had had no anodyne for some hours. He was easily aroused, and took medicine and nourishment. The icterus was more marked than on the previous day. I examined the blood and found no increase in leucocytes. During my visit he became restless, and complained of the same sharp pain in his right side, and the right hand and arm were contracted. I gave him morphin hypodermically. At two o'clock his restlessness had developed into a wild delirium. He lay on his left side or face, with his head drawn somewhat backward, but not forcibly so. He simply seemed to breathe better in that position. When disturbed he would throw himself in such a way that it was necessary to restrain him by force. It was impossible to make any examination of the abdomen until complete morphin narcosis had been induced. His respirations at this time were 28, his pulse 132, his temperature 103.4° F. The abdomen was considerably distended, and it was impossible to palpate or percuss any liver dulness. The abdominal percussion was almost entirely dull tympanitic in character, not the usual tympanitic note of intestinal distention by gas. Very little gas was passed through a rectal tube. The physical signs seemed almost to indicate that there was a general peritonitis. As the effects of the morphin wore off toward night it was evident that there was a deepening stupor. His pupils dilated and his breathing became stertorous, but at no time slower than 28 per minute, and as the distention increased it rose to 32. It was not possible to arouse him at seven o'clock. At eleven o'clock at night he had a general convulsion lasting perhaps ten minutes. When I saw him a few minutes later his condition was moribund, and he died at midnight in a slight convulsion. After death there was no relaxation of the muscular spasm. Rigor mortis was immediate and lasted sixteen hours.

At the autopsy the abdomen contained a small quantity of bloody or bile-stained serum. The liver was greatly diminished in size, its surface was smooth, it was quite firm in consistency, and on section was very much bile-stained and of a mottled appearance of saffron and yellow. The gall-bladder was greatly distended with a clear fluid very like the white of egg, slightly stained with bile. The common bile-duct was completely closed and from its mouth exuded a drop of pus. The spleen seemed enlarged, and was slightly softened and of a dark-red color. The kidneys were enlarged, and loaded with bile pigments.

The peritoneal surfaces were perfectly normal as far as we could determine except that they were hyperemic. The great omentum showed occasional areas of subperitoneal hemorrhage, and the mesentery of the small intestine was one mass of small blood-clots, some darker in color than others, but covering almost the entire surface of the mesentery. I believe the dulness of the tympanitic percussion-note was at least in part due to these mesenteric hemorrhages. I can give no cause for the intestinal distention except the destruction of the mesenteric arteries, cutting off a large part of the blood supply from the gut.

There was a slight serous exudation in the pleural sacs. The lungs were somewhat congested, but for the most part, crepitant. The heart was found in systole, very pale, and bloodless, but apparently of normal size. The only urine that could be obtained was that at autopsy. It was acid in reaction, of a specific gravity of 1009, and contained a small amount of albumin but no sugar. Bile pigments were present in large quantity. There were a few granular casts, and large numbers of leucin crystals. Sections of the liver showed large areas of tissue necrosis, but the length of time between death and the autopsy made it impossible to obtain satisfactory specimens.

As to diagnosis, I have hesitated to say acute yellow atrophy because of the extreme rarity of the affection, but after reviewing nearly half of the 200 reported cases I am led to believe that this was an acute atrophy following a simple catarrhal jaundice. There was very little vomiting during the course of the illness, and no general convulsions until just before death. It is to be regretted that the tissues were not satisfactory for microscopical work.

MEDICAL PROGRESS.

Biological Conditions in the Families of Epileptics.—BECHET (*Arch. de Neurol.*, March, 1899) from a study

of many epileptic families, draws the following conclusions:

1. The duration of life, the longevity, is considerably less in the ascendants of epileptics, than it is in normal families.

2. The rate of birth, the natality, is higher in epileptic families than is the average in normal ones. Epileptics usually belong to large families. The powers of reproduction of epileptics fall rapidily to a lower level than normal, so that epilepsy tends toward sterility.

3. The life energy, or vitality, is much less in the families of epileptics, than in normal families. It is during the early years that the vitality is the lowest, in epileptic families, just as in normal families, but this is even more marked in epileptic families than in others.

4. The morbidity, that is the frequency of different diseases in epileptic families, presents some curious characteristics. Pulmonary troubles, especially phthisis, is very common in the ascendants of epileptics. Cerebral affections, meningitis in particular, occur with frequency in their descendants. Neurosis and insanity are rare, according to the researches of this author. These results confirm the opinion of Lasegue that epilepsy is not hereditary.

THERAPEUTIC NOTES.

Ipecac in Feeble Digestion. — Mathieu (*La Presse Med.*, April 5, 1899) thinks that ipecac is one of the best remedies to excite the stomach when the motor action is feeble. He prescribes it in minute doses. Following are two of his favorite prescriptions:

℞ Tinct. ipecac. } aa . . . 3 iij.
" columbæ }
" gentianæ }

M. Sig. Take 5 to 10 drops in a little water after eating, and repeat the dose in a half-hour, and again in an hour.

℞ Tinct. ipecac. . . . . 3 j
Saccharin . . . . . gr. j
Menthol . . . . . gr. ijss
Alcohol 80 per cent. . . . . 3 vjss
Syr. simplicis . . . . . oz. ijss.

M. Sig. Two to 4 teaspoonfuls in divided doses after eating.

The Rectal Temperature of a Child.—By examination of 100 children of different ages, Hamburger (*Centralbl. für Inner. Med.*, April 1, 1899) has found that a thermometer, which is passed 5 cm. (2 in.) or more into the rectum of a child, will record higher than ordinary temperatures. A constant temperature was reached when the bulb of the thermometer was a distance of 10 cm. (4 in.), from the anus. At this depth the highest temperature of the body is recorded in less than two minutes, and is at least 0.5° C. (0.9° F.) higher than the axillary temperature.

Gonorrheal Epididymitis Quickly Relieved by Salicylate.—Picot (*Gaz. heb. de Med. et de Chir.*, April 16, 1899) has used salicylate of soda in the treatment of gonorrheal rheumatism with great success. The patient should first be given a thorough purge with sulphate of magnesia, an ounce or more. The next day, the intestine having been thoroughly emptied, and rest in bed with elevated testicles being enforced, the salicylate is given in four doses of fifteen grains each. This is repeated each day as long as is necessary. If the medicine is stopped too soon the symptoms will reappear. In ordinary cases the swelling and pain and induration quickly disappear. It may be necessary to repeat the Epsom salts, as it is of the first importance to keep the bowels open during treatment.

A New Remedy for Tapeworm. — Lauren (*Therap. Monatschefte*, April, 1899) found that the anthelmintic property of aspidium felix mas is possessed by the roots of some other ferns, and especially by aspidium spinulosum, a variety which is far commoner than the felix mas, and therefore cheaper. Having made an etherial extract of the roots of this variety, he cured himself of a tapeworm with which he happened at that time to be afflicted, and afterward administered the medicine to other patients with complete success. In all cases but one a single dose brought away the head. There were no unpleasant symptoms in any instance. The dose was 4 grams (1 dram), and the usual precautions of two-days' previous starvation, and catharsis, were observed. Later Lauren found that the remedy has been considerably used in Finland, in place of felix mas, although not under its own name. It appears, therefore, to have been sufficiently tested to warrant its general use, in localities where felix mas is scarce or expensive.

Massage of the Liver for Biliary Colic.—Moebius (*La Presse Med.*, April 15, 1899) has found a very simple means to overcome or diminish the intensity of attacks of hepatic colic. A deep inspiration is taken, lasting five seconds, and then the breath is held for twenty or thirty seconds in full inspiration, before it is allowed slowly to escape. After a pause of ten or fifteen seconds, the deep inspiration is repeated. This exercise, which is a veritable massage of the liver, may be carried out in a prone or upright position, but the effect is most marked if the patient leans back in an arm-chair resting his forearms on the arms of the chair. The lack of deep respiratory movement is said by this author to favor cholelithiasis, which is much more common in women than men, the difference being due he affirms, to the interference with respiration by the corset. These respiratory exercises ought to be regularly gone through with as prophylactic measures by those persons who are subject to biliary colic.

Cure of Traumatic Tetanus by the Injection of Carbolic Acid.—Pieraccini (*Rev. de Therap.*, March 15, 1899) relates a case of the cure of traumatic tetanus by the injection of carbolic acid, in daily doses of 1.5 minims. The result is the more remarkable, as, according to the report, the case was a severe one, and treatment was not begun until seven days after the onset of symptoms.

The Medical News.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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SATURDAY, JUNE 3, 1899.

THE AMERICAN MEDICAL ASSOCIATION.

The principal annual event, so far as the medical profession of this country is concerned, will occur at Columbus, Ohio, next week, June 6th to 9th. Columbus is not far from the center of population of the country, and all signs give promise of a large and interesting meeting. Hostile critics may carp at the quality of the scientific procedures of these annual convocations, but those who have the management of them in hand, as well as the host of general practitioners who come up to the shrine yearly, realize that the functions of such an assembly are many, and that they fulfil their mission admirably. Other medical organizations may adhere more closely to their scientific work, and conduct it perhaps from their standpoint on a higher plane, but the outing that attends these general meetings and the acquaintance and good-fellowship there engendered, together with the stimulus for higher things, is ample recompense for the sacrifice involved.

The division of the Association into sections for annual meetings, with a general meeting once in two or three years, would certainly impair the usefulness of the organization and rob it of the many valuable features of which we have spoken.

The geographical center of our nation, including Alaska and our new possessions, is moving rapidly toward the Western coast. Future meetings at such a center may involve long journeys for the majority of the members, but the outing will be greater, and for those years in which it meets on the Pacific Coast travel and recreation must be the features.

The meeting at Columbus presents a program replete with scientific interest and instruction, and the Medical News will present next week a prompt and interesting report.

"KOPLIK'S SPOTS" IN MEASLES.

We present this week, from Dr. Koplik himself, an article illustrated in colors on this important sign of the early stage of measles. The presence of these spots before any other definite sign of measles is discoverable, and their specific relation to that disease and no other, has been confirmed from so many quarters that there can no longer be any doubt of its positive value. Its recognition will shorten, as a rule, by at least twenty-four hours the period of uncertainty and delay which usually attend the beginning of a case of measles. When once its presence is recognized the diagnosis can be made with assurance. This will prove not only a source of personal satisfaction to the physician in permitting him to make the final diagnosis earlier, but will enable him to begin much more promptly definite quarantine precautions to prevent the spread of the disease.

It is with no little satisfaction that we announce this practical discovery as the result exclusively of American clinical observation. There is to date, we believe, absolutely no counter claim to priority of discovery. It is remarkable that these easily recognized lesions of the buccal mucous membrane should have escaped during all these years the acute observation of so many experienced clinicians. This fact but emphasizes the necessity there is in medicine of seeing things with one's own eyes, and not catching merely the salient features of a case and then filling in on traditional lines its special aspects and minute details.

We are pleased to note moreover how readily good clinical work meets with recognition abroad. Considerably more than a year ago Slawyk, Pro-

fessor Heubner's assistant at Berlin, published an article in the *Deutsche Medicinische Wochenschrift* confirming Koplik's discovery and acknowledging its great practical value. Last year Professor Heubner, himself, who is Henock's successor in the Chair of Children's Diseases at Berlin, made Koplik's spots a special feature of his clinics on the infectious diseases at the Charité, and insisted on their significance. Acknowledgment as ready and immediate has been accorded in other prominent children's clinics in Europe. Koplik's spots may, therefore, be considered an integral part of the classical symptomatology of measles in the sense that it must enter into the body of medical teaching on that disease.

Unfortunately here in America there seems to have been a certain feeling of indefiniteness as to the exact condition described by Koplik, and its exact location on the oral mucous membrane so that his communications on the subject have not received the attention they deserved. We are glad to be able to show in this issue that a number of American physicians have seen the condition described and recognized its value. We sincerely hope that our present review of the subject will set this very important and practical matter properly before the profession in this country.

THE FIELD OF CLINICAL OBSERVATION AND ANOTHER SIGN IN MEASLES.

It is the custom to think and to say that the field of clinical observation has been so thoroughly worked over that it is almost hopeless to look for any new discoveries in it. Notwithstanding this, however, there is pointed out every now and then some hitherto unobserved symptom, some new relation of disease, some significant combination of disease appearances, or some new etiologic trait that serves to make a disease entity clearer. Marie of Paris, though but comparatively a young man, has improved, in most commendable fashion, some of the magnificent opportunities presented by the large institutions in and around the French capital to enrich medical literature with some hitherto undescribed types of disease, the material for which has been gathered with marvelous synthetic intuition. Marie's disease, acromegaly, pulmonary osteopathy, the bulbous fingers and toes of thoracic conditions, and some very interesting groupings in nervous and trophic disorders have been the result of this one man's clinical activity during less than fifteen years.

This example indicates that there is still a very hopeful field in clinical observation. The article of Dr. Koplik in this week's issue is an even more striking confirmation of this, for if there is a subject whose clinical symptomatology seemed reasonably complete and to which it appeared idle to hope for any important additions it is that of the acute exanthema, the ordinary diseases of childhood.

It is interesting to note in this connection that another observer, something over a year ago, pointed out another sign in measles that had not previously been noted and which he hoped would prove to be pathognomonic of the disease at an early stage. This is the friction fremitus which, as Bolognini pointed out, may be felt over the abdomen of children sick with measles before any rash or other characteristic sign of the disease has appeared. He attributed it to a very early eruption of the measles-rash upon the peritoneal surfaces, parietal and intestinal, the consequent inflammatory roughness and dryness causing the friction and fremitus. Other observers have confirmed the presence of this sign in measles but have found it in other diseases also, notably in various intestinal affections. It is not pathognomonic of measles, therefore, and does not occur in every case. The exact significance of the friction fremitus has not yet been decided, but undoubtedly the observation adds to our knowledge of the effects of the exanthemata and severe intestinal diseases, by calling attention to the fact, that the peritoneal surfaces are very often affected in these pathological conditions. This brings us more and more to the realization of the constitutional nature of these diseases and their liability to affect any and every part of the system.

No further evidence than the pregnant suggestiveness of these observations is needed to demonstrate that there is still a valuable field open to careful clinical observation and that its rewards are by no means impossible of attainment. So much valuable clinical material is passing through the hands of American physicians that we cannot but express the hope that American acuity of observation will give us each year some important addition to our clinical knowledge of disease, not the theoretical conclusions of the laboratory but the invaluable results of observation in the sick room and the hospital ward.

MEDICAL STUDY ABROAD.

THIS is the season of the year when, with graduation exercises just past or his service in a hospital just concluded, many a young medical man is apt to think seriously of the question of spending some time in medical study abroad. There are those who say that the European medical experience should come after some years spent in practice, at a time when the young physician is better able to judge of the character of the work to which he wishes to devote himself. This plan undoubtedly, in theory at least, has its decided advantages. Unfortunately its application in practice is almost impossible. A few years spent in practice are apt to bind the young physician fast to his place in life; he does not feel that he can afford to leave his clientele just at a time when he is beginning to be appreciated. And so the roseate dream of meeting and hearing Europe's greatest medical men is allowed to fade into oblivion, or attains fulfilment only in a few hurried months of travel and supposed medical observation during a vacation abroad.

Of the advantages of a closer contact with the great makers of medicine in other countries it seems scarcely necessary to speak. Here in America we owe not a little to the impetus that has been acquired by such contact in the past. Not that American physicians absolutely independent of foreign medical influence have not accomplished work of the highest order, but the personal contact with great teachers abroad has been for many in the past and is at present a source of most active inspiration and of suggestive and enthusiastic devotion to scientific medicine.

As to whether it shall be worth the while to spend some time in foreign study each one must judge for himself. For the ordinary practitioner perhaps not so much is to be gained. For one who hopes some time to be a teacher of others (and to whom does the divine afflatus of wishing to impart knowledge not come at some time in life?) a European trip is almost indispensable. The broadening effect of travel at a susceptible time of life can scarcely fail to have its effect upon the individual's entire after life.

There are certain practical problems connected with a trip abroad; the where, the when, the how to go, the what to look for, and from whom, are sometimes a mountainous molehill in the prospective medical tourist's path. To help him over this we have arranged to publish during June a series of letters (the first one appears in this issue) from students in various parts of the country who have just completed a prolonged stay, two years or more, abroad. They will give as the results of their experience abroad such practical points as they consider would have been helpful for them to have had on setting out. The letters will include experiences in Vienna, in Berlin, in Paris, and a glance at the minor German universities by one who has visited many of them. At least one communication will give some details of a woman physician's experience abroad and her agreeable surprise to find that, contrary to advice in the matter, even in Vienna there is an excellent field for medical work by women.

ECHOES AND NEWS.

The Trustful Medical Man.—One Harry Van C. Homans, of the broker's firm of Eliott & Homans, New York City, has filed a petition in bankruptcy. The list of his creditors is headed by the names of twenty-nine doctors, to all of whom he owes money.

Cholera Outbreak in India.—Cholera is raging in Karachi, the principal seaport town of Sinde; 232 new cases were officially reported on May 24th, and 208 deaths for that date. The official returns show a total of 1197 cases and of 1099 deaths since the epidemic began.

Appointments in the United States Marine Hospital Service.—Walter E. Merrill of Maine, appointed acting assistant-surgeon, assigned to duty at Portland, Maine, May 11, 1899. W. S. Henderson of Michigan, appointed acting assistant-surgeon, assigned to duty at Port Huron, Michigan, May 11, 1899.

A Russian University for Women.—A project is under way in Moscow to found a university for women, to have three departments, medicine, science, and mathematics, in which the teaching shall be on a level with that in the men's universities. A million rubles has already been set aside for the purpose by the will of W. J. Astrokow, recently deceased.

Officers of the American Gynecological Society.—At the recent meeting of this society the following officers were elected for the ensuing year: President, George J. Englemann of Boston; vice-presidents, Edward L. Duer of Philadelphia and Seth C. Gordon of Portland; secretary, J. Riddle Goffe of New York; treasurer, J. Montgomery Baidy of Philadelphia.

Suicide of a Centenarian.—Francois le Merle, aged ninety-nine years, was oppressed with the idea that he

could not die, and so instead of rejoicing in the advanced age, which made him an object of envy to most people who knew him, he went to a railroad crossing close by his home, near Perigueux, France, and threw himself in front of a midnight train. He was cut in pieces.

Bubonic Plague Spreading.—Four cases of the plague were reported at Alexandria, in Egypt on May 24th. M. Guillain, the Minister of the Colonies, announced on May 24th that Grand Bassam, a French town in Upper Guinea, on the African Gold Coast, had been evacuated owing to the ravages of yellow fever. It is elsewhere stated that the sickness at Grand Bassam is really the bubonic plague.

Examination for the Marine Hospital Service.—A board of officers will be convened at New York City, Tuesday, June 27, 1899, for the purpose of examining candidates for admission to the grade of assistant surgeons in the United States Marine Hospital Service. Applications for this examination must be received on or before June 24th. For further particulars apply to the Supervising Surgeon-General, U. S. Marine Hospital Service, Washington, D. C.

The Smell of the Earth.—Nuttall has determined that the smell of freshly turned earth is due to the growth of a bacterium, the cladothrix oderifera, which multiples in decomposing vegetable matter, and more rapidly in the presence of heat and moisture. Hence the odor is especially marked after a shower, or when moist earth is disturbed. In dry soil the development of the bacterium is arrested, but it is immediately resumed with vigor, as soon as moisture is restored.

To Prevent the Spread of Disease by Physicians. — The boards of healths of Lausanne and of Zurich in Switzerland, have offered to physicians who have scarlet fever or diphtheria patients, the free use of the long gowns which are employed by the sanitary inspectors. The doctor may slip one of these over his own clothing when he enters the infected premises, and slip it off when he comes out, leaving it there to be disinfected by the authorities when the patient has recovered.

Denies Mrs. Lathrop's Request.—The New York State Board of Charities has refused the application of Mrs. Rose Hawthorne Lathrop for articles of incorporation for the Cancer Hospital for Women, which she has been conducting in New York City for several years. Dr. Stephen Smith, to whom the matter was referred, stated that the Department of Charities hospitals can care for all such patients as Mrs. Lathrop seeks to reach, and can do it better than she, since there are in the hospitals trained nurses and competent visiting and resident physicians in attendance.

Hysteria in a Cat.—A nine-months' old kitten, very fond of play, was one day bitten in the back by a dog. Thereafter, it dragged its hind legs, and did not move its tail, just as if the cord had been crushed. Later it fell from the first story of the house. It was instantly cured and used its legs and tail as well as ever. It is evident that the shock of the fall produced a psychic effect sufficiently powerful to overcome the idea of paralysis. That the trouble was only a hysterical paralysis was further shown by the preservation during the whole time of the functions of bladder and intestines.

The Fate of Schlatter's Patient. — The woman from whom Schlatter removed the whole stomach for carcinoma lived not quite fourteen months after the operation, and died of multiple cancerous lymphatic nodules, and the resultant cachexia. There was no trouble during this period in keeping up the nutrition of the patient. The autopsy showed that there was no attempt either on the part of the duodenum, or of the esophagus, to dilate and form a pouch, as was observed by Czerny after removal of the whole stomach in a dog. The food taken passed directly from the esophagus into the intestine, and that intestinal digestion was sufficient to supply her wants, was shown not only by the long continuance of life, but by the fact that for a considerable period after the operation she gained in weight.

The New York Woman's Medical College Abolished.—The thirty-first and last annual commencement exercises of the Woman's Medical College of the New York Infirmary for women and Children were held on the evening of May 25th. There were eighteen graduates of whom twelve have secured hospital positions. The Medical Department of Cornell University which has been established in New York City, and which offers to women advantages in medical education that the Woman's College could not offer, has left the latter, in the opinion of its trustees, without adequate reasons for continuing its existence. The undergraduates of the college are to pursue their studies at Cornell. The closing of the college will not affect the Infirmary for Women and Children, of which it has been an adjunct.

Geophagy.—The habit of eating earth, or geophagy, as it is technically called, is more widespread than is generally supposed. In some parts of Germany a fine clay is spread upon bread, under the name of stone-butter. In upper Italy and in Sardinia earth is sold in the markets. In the extreme northern part of Sweden and in the peninsula Kola an earth composed of infusoria and called mountain flour is baked in bread. In Persia earth is used in the manufacture of certain sweetmeats. In tropical regions the use of earth as an article of food is well-known; but it is also employed as a medicine in Nubia, and among different tribes its use has a religious meaning as well. Many explanations are offered for such a widespread custom. It is not impossible that these various earths have more or less flavor, and that they supplant to a certain degree the use of salt.

Commencement at Rush Medical College.—The commencement exercises of Rush Medical College were held May 25th. The degree of Doctor of Medicine was conferred upon 166 students. In addition to this, special honors were awarded various members of the graduating class. Dr. Arthur Dean Bevan, Professor of Surgical Anatomy in the college, has been transferred

from the Department of Anatomy to that of Surgery, with the rank of Associate Professor. Dr. William T. Belfield, Professor of Bacteriology in the college, has been transferred from that department to that of Surgery, with the rank of Associate Professor. Dr. Christian Fenger has been appointed Professor of Clinical Surgery, uniting with Dr. Nicholas Senn in the discharge of his duties in this department. Dr. George Webster of Montreal, who has recently married a daughter of the late Dr. Wm. T. Lusk of New York, has been appointed Professor of Gynecology and Obstetrics.

A High Compliment to an American Surgeon.—Apropos of Professor Dennis' recent election to a Fellowship of the Royal College of Surgeons of England, the London *Lancet* of May 13, 1899, says "The election is not more honorable to Professor Dennis than it is creditable to the college. Few men combine the ideal qualities and the merits of an elected Fellow more than he does. His personal devotion to surgery both as a teacher and a practitioner and the embodiment in him of all that completes our conception of a general American gentleman point him out as worthy to receive the compliment paid to him by his college. It is to this genial quality of his nature that he owes not only his large circle of friends in Great Britain and other European countries but also the fact that he has been able to associate with himself as editor so many distinguished compatriots in the compilation of his splendid system of surgery written throughout by American surgeons." Verily our English cousins are beginning to appreciate us at our true valuation.

The Tuberculosis Congress.—The International Tuberculosis Congress was held in Berlin from May 24th to May 27th. It was opened by the Empress Augusta Victoria, under whose patronage the congress was assembled. There were 2000 members present. Count Posadoinsky Wehner, Minister of the Imperial Treasury, opened the session with an address of welcome to the delegates, in which he declared that this gathering and the peace conference at The Hague would be the most glorious events in the history of the present time. Emperor William, in answer to a message of respect, sent a telegram expressing his good wishes. Surgeon J. C. Boyd, who represented the Medical Corps of the United States Navy, was made chairman of the United States delegates, and Dr. von Schweinitz, the American delegate, was chosen honorary president of the second section of the congress. It was stated that medical science has already gained sufficient skill in combating tuberculosis to effect cures in 20 per cent. of the cases. Professor Virchow made an important address on the causes of infection. Professor Brieget, in a lecture on Dr. Koch's tuberculin, stated that it undoubtedly has a strong healing power if the treatment is persisted in, even in cases which have advanced to secondary infection. In any event, by its means tuberculosis can be recognized in good time and in doubtful cases. The chief benefit of the congress will consist in the renewed public interest aroused in the subject of tuberculosis.

CORRESPONDENCE.

THE MEDICAL STUDENT ABROAD.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—There are three things worthy of consideration in contemplating a post-graduate trip to Europe, namely: The study of medicine, the acquisition of modern languages, and the broadening effect of travel. Any one who wishes to be considered well educated can enthuse over all three, though unfortunately in their acquirement within a definite limited time they more or less infringe upon each other. To obtain properly the broadening effect of travel one should see at least the greater part of Europe, but in a limited time (anything under two years) this would necessitate foregoing so much of the other two that it is not to be seriously thought of, yet it is to be kept in mind as an important side issue throwing some weight as to where one should go.

In order to acquire the languages—and one should not spend two years in Europe without learning at least two, German and French—the best plan would probably be to avoid the cities, which are always crowded with English-speaking people, and stick to the small towns and the lesser universities. But this plan shuts out entirely the third, namely, the effect of travel, and prevents contact with most of the great makers of medicine, which is an education in itself. On the whole, then, it seems to me that the majority will acquire the greatest benefit from studies pursued at the large universities. As to which are the best depends largely on the branch or branches in which one is interested. If general internal medicine is the goal sought then by all means go to Vienna. There the courses on this subject are particularly well arranged, and arranged especially for Americans. There one has opportunities for bedside instruction, ideal in its completeness. The student examines the case and makes his diagnosis. The assistant of one of Vienna's famous professors comes along, asks the diagnosis made, and quizzes on the reasons for it. Then he goes over the case completely, showing your defects in examination, or in your reasoning toward your conclusion. After he has finished you have a second opportunity to examine the case, and within the next week or two can listen to the professor himself demonstrate the case to the student class. Now, if you wish, you may examine the case personally a third time. A more ideal way than this I cannot imagine. The advantages in clinical surgery struck me also as greatest in Vienna; exercise work on the cadaver being the rule, though frequently, too, opportunities for assisting at operations are given.

Special work on the nose, the throat, and the ear seems to be about equally good in Berlin and in Vienna; in both places one has under good guidance perfect freedom for personal examination and treatment, even to the doing of operations. The same is likewise true for eye-work, children's diseases, and gynecology. In clinical and laboratory work on nervous diseases Berlin is much in advance of Vienna. The teachers of nervous diseases in Berlin, many of whom give their personal attention to your laboratory and clinical work, cannot be excelled.

In general pathology there is much to be said in favor of Vienna, though even in this branch some division of the time between Vienna and Berlin, if only to learn the different methods, seems to be advantageous.

There is one subject left, namely, bacteriology. Whether you are interested in this particular subject or not, some knowledge of it is necessary to every physician. Gain this knowledge at the Pasteur Institute. No one ever met Roux and Metschnikoff to regret it. Besides, this brings one to Paris, and though opportunities for personal clinical or laboratory work are not as accessible as at the German and Austrian universities, there are so many different medical methods to be learned, and medical men to be met and heard, not to speak of the broadening effect of the study of Parisian life, that Paris deserves at least three to six months out of two years.

I have left out of consideration the smaller universities because, although one may frequently find in them opportunities for chemical and scientific work on certain special lines, greater than in the larger universities, the general chances are less, and it is usually only by accident or previous arrangement that such opportunities are available. It is worth the while during the vacations to visit the smaller universities to meet and hear some of their famous teachers and look out for the occasional opportunities, but to start from America with the idea of staying one or two entire years at a small university is a mistake.

To the general student my advice would be: Spend six months in Vienna, six months in Berlin, and having had a look at Prague, Leipsic, and some of the other universities, determine for yourself where it will profit you most to spend the third six months. Most students will return to Vienna. Spend the last six months of the two years in Paris, if possible making a short tour through Italy before going there, not omitting to pick up as many scraps of the Italian language as possible.

JOSEPH WALSH, M.D.

PHILADELPHIA, May 27, 1899.

MALARIA IN MOBILIZATION CAMPS DURING THE LATE WAR.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—Perusal of an article in a recent issue of the MEDICAL NEWS (Thayer, on "Recent Investigations upon Malaria," MEDICAL NEWS for May 20, 1899) recalls three cases of malaria which came under my observation while on duty as hospital steward in the Thirty-first Michigan Regimental Hospital, stationed at Knoxville, Tenn. While on duty for a short time in the fever ward of the Second Division Hospital at Chickamauga Park I did not observe a single case of malaria, although typhoid raged rampant.

The only insect pests which the soldiers at Chickamauga had to endure were the common house-fly and the much-dreaded "jigger;" mosquitoes were a rarity; in fact, I do not remember ever having been bitten by a mosquito there.

On August 15th the entire Second Division of the First Army Corps was ordered to Knoxville, Tenn. After arriving at Knoxville, the typhoid continued, notwithstanding the fact that the sanitary conditions of the camp were ideal and the water-supply perfect. From August 15th to September 1st upwards of twenty cases of typhoid were admitted to the Regimental Hospital. I believe these cases were incubating during the latter days of our stay at Chickamauga. Not a single case of malaria was observed. During the first week in September I admitted to the Regimental Hospital three cases which I considered suspicious, and it was during this week that the mosquitoes descended upon the camp in swarms. Upon admission all three patients complained of having been severely bitten, and examination showed that the neck, forearms, calves, and ankles were covered with mosquito bites in various stages of development. The patients developed characteristic tertian rigors. Owing to the lack of facilities furnished the field hospitals, I was unable to make a blood examination immediately, but a few days later, through the kindness of a local practitioner of Knoxville who furnished me with slides and cover-glasses and allowed me the use of his microscope, I was able to demonstrate the tertian organism in all three cases, the quinin which was being exhibited having, in the meantime been discontinued for the preceding forty-eight hours.

I mention these three cases because they were the first cases of malaria noted by me during my five-months' experience in the army, and because their appearance at the same time with the advent of the mosquitoes impressed me as being quite significant. During the month of September the number of new cases of typhoid rapidly diminished, but several new cases of malaria were admitted to the hospital, in all of which I was able to demonstrate various forms of the plasmodium malariæ.

Very truly yours,

WALTER MILLER WARREN, M.D.

CHATEAUGAY, N. Y., May 25, 1899.

SECOND ATTACKS OF MEASLES.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—During September and October, 1898, in a boarding-school here, 18 boys and 41 girls were suffering from measles, the last patient being discharged from treatment October 20th. In January, 1899, the disease was again brought into the school, there being 24 cases among the boys and 11 among the girls. Eight of the boys and 5 of the girls had had an attack in September. Two cases of the second attacks were quite severe, the others being milder than the first attacks. Besides these, a lady in charge of the boys, had in the January outbreak, a characteristic eruption and mild bronchial catarrh. She affirms that she had had two previous attacks. In none of the second attacks were there lung complications other than mild bronchitis, while one of the January cases was complicated with rather severe bronchopneumonia.

Very truly yours,

J. C. MCGAHEY, M.D.

FORT YATES, N. D., May 24, 1899.

SECOND ATTACKS OF CONTAGIOUS DISEASES.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—Permit me to add the following to your reports of a second attack of contagious diseases. For some years, when scarlet fever has occurred in this city, the family has been carefully questioned as to previous attacks of that disease. I fully realize that the data thus obtained are not entirely reliable as memory cannot always be trusted, and it is by no means certain that the diagnosis of the first attack was correct. Of 515 children who had previously had scarlet fever and lived, at the time of the inquiry, in a family where there was one or more cases of that disease, 75, or 14 per cent. had a second attack. Of 827 adults who had had scarlet fever and were similarly exposed, 12 only, or 1.4 per cent. were attacked. These percentages may be compared with the percentage of those attacked among individuals who were exposed and had never had a previous attack. Of 10,082 children who were thus exposed, 5504, or 54 per cent. were attacked, and of 4085 adults, 250, or 6 per cent. were attacked.

In 1894 I had a patient fifty-eight years old who died of smallpox. He stated that he was vaccinated when a boy, but there was no cicatrix on his arm. His father and brother stated that he had smallpox when four years old and was treated by the late Dr. Turner, one of the best physicians in Newport. There were no indications on his body of a previous attack of smallpox, but I consider it probable that he did have a mild attack as his family stated.

Yours truly,

CHARLES V. CHAPIN.

HEALTH DEPARTMENT, OFFICE SUPERINTENDENT OF HEALTH, PROVIDENCE, R.I., May 26, 1899.

OPENINGS IN THE NASAL SEPTUM AS A RESULT OF TYPHOID FEVER.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—During an epidemic of typhoid fever here last year I met with two rather peculiar cases. Two girls, sisters, aged twenty-one and sixteen years had typhoid at the same time, though in different rooms. Each case was slow to recover. During convalescence I noticed an opening in the nasal septum of the younger girl, about two lines in diameter. The edges had an appearance of diphtheria, a whitish-gray color, which could not be removed by mopping with cotton. The opening gradually grew until it was nearly half an inch in diameter, but now, after eight months it is about a quarter of an inch in diameter. The case of the older sister was similar in every respect.

By keeping their mouths closed and breathing rapidly and forcibly through the nose, a peculiar whistling noise is made. Indeed they can almost play a tune with their noses.

Dora K., aged twenty-two years, living within one hundred feet of the above, had typhoid at the same time, and also the opening in the nose. It has not closed up. The edges of the opening had the appearance of diphtheritic membrane, but there was no discharge at any time, the balance of the nose was not inflamed, neither was there any throat trouble at any time. Three months before this the sister of the first two patients had a well-defined case of scarlet fever, but none of the members of the family had any such trouble.

Very truly,

C. C. HUBBARD, M.D.

WORTHVILLE, N. C., May 26, 1899.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

SEWAGE CONTAMINATION OF THE SCHUYLKILL—A CASE OF CONGENITAL MACROPODIA—ANEURISM OF THE AORTA—SMALLPOX IN NICETOWN—VITAL STATISTICS.

AS a result of a systematic course of investigation into the souces of pollution of the city's water-supply, carried on for the past three or four months, the Bureau of Survey now announces that it has discovered at least one definite proof of the reception of sewage by the intake pipes of a city reservoir. The rather startling statement is made that a system of city sewers, carrying house drainage of a most obnoxious and injurious character, empty into the Schuylkill River immediately above the large intake pipe of the Queen Lane reservoir, and that a portion, at least, of this sewage-laden material must of necessity find its way into the storage basin and into the supply mains of the consumer. When it is recalled that during the typhoid epidemic of the past winter the district supplied by the Queen Lane reservoir was particularly scourged by this disease, the significance of the Bureau of Survey's statement is appreciated in its true light. Of course, the evil will be corrected at once, say the city authorities—but they fail to state their attitude toward the contractors who built the infecting sewer, and toward the city inspectors who passed the work.

A remarkable case of congenital macropodia in a boy of twelve years, was presented before the Philadelphia County Medical Society at its last meeting, by Dr. William J. Mann. The left foot was enormously enlarged, and resembled the foot of a large-sized man. It measured fourteen inches in circumference at a point one inch back of the metatarso-phalangeal articulation, and was twelve inches in length; the three outer toes of the affected foot were nearly six inches in length and six inches in circumference. The entire left leg resembled that of an adult, but otherwise the boy was normally developed, and presented a good family history. A radiograph showed that the three outer metatarsal bones were enlarged about three times their normal size, and that the three outer phalanges were more than twice the normal size. In fact, the entire leg, both as to soft tissue and osseous parts, was markedly enlarged in circumference, though it was not proportionately increased in length. Dr. Mann attempted to correct the deformity by amputating the second and third toes at the metacarpal junction and the first toe together with the entire metacarpal bone. The result of the operation is as yet undetermined,

owing to the short time which has elapsed since it was performed.

Drs. W. M. L. Coplin and E. Q. Thornton reported at the last meeting of the Pathological Society of Philadelphia a case of large aneurism of the aorta rupturing into the pulmonary artery. Post-mortem examination of the case showed that the pericardial cavity contained 700 c.c. of intensely red, clotted fluid, the pericardium itself showing a marked villous, fibrinous deposit abundantly distributed over both visceral and parietal layers. At the upper and outer aspect of the pericardial cavity there was a slit-like opening fully occupied and apparently closed by a post-mortem clot; the opening measured 2 cm. in length, possessed ragged edges, lay immediately adjacent to and parallel with the pulmonary artery, and communicated directly with a globular tumor continuous with the aorta. This aneurismal tumor occupied the superior and middle mediastinum, and pressed backward upon the œsophagus and bronchi and forward upon the sternum, which was slightly eroded. The aneurismal sac was globular in appearance, and had an external diameter of 20.5 cm. It was firm over the whole anterior surface, and as far as could be determined, over the posterior surface, as well; and lay in immediate relation with the upper lobes of both lungs, the bronchi and great veins, the œsophagus, and the sternum. There was considerable subpericardial fat, which at points seemed to run into the muscle. The myocardium was softer than normal, and showed on section, some evidence of mottling and of striation. The cavities of the heart were moderately distended, the right side more than the left. The orifices and valves of the right side were normal; the mitral valves were atheromatous and quite thickened; the aortic valves were slightly thickened, atheromatous, and showed fibrinous thickening extending into the sinuses of Valsalva; the aortic orifice transmitted four fingers. The coronary arteries were normal. At a point 1 cm. from the aortic orifice there was a globular mass completely surrounded by a laminated white thrombus. The cavity occupied by this thrombus measured 16.5 cm. in diameter, and had a wall 4 mm. thick. Anteriorly and to the right the thrombus was 8 cm. thick, while at the left and over the pulmonary blood-vessels it was less than 1 cm. thick. Over the pulmonary artery it was barely .25 cm. thick, and communicated with the pulmonary artery at a point 4 cm. from the pulmonary orifice, by an irregularly jagged, button-like projection for about 1 cm. The opening into the pulmonary artery was 1.5 cm. in length. The canal through the thrombus was like a flattened cylinder, ovoid on section, and barely transmitting three fingers. The aorta was somewhat atheromatous above the valves, and where it left the aneurism became narrowed into a circular orifice which just transmitted the index-finger. This orifice was surrounded with dense, thickened, fibrous bands. The heart pericardium and fragments of thrombi weighed 1880 grams.

The excitement caused by the outbreak of smallpox in Nicetown, a nearby suburb of the city, is not allayed by the seeming irregularity with which fresh cases of this disease are reported from day to day. Up to the present time 35 cases have developed, the majority of which are receiving treatment at the Municipal Hospital.

The total number of deaths in this city during the week ending May 27th, was 384, a decrease of six from those of the preceding week, and a decrease of 25 from those of the corresponding week last year. Of new cases of infectious diseases, there were 29 cases of smallpox; 69 cases of enteric fever, with 14 deaths; 66 cases of diphtheria, with 12 deaths; 48 cases of scarlet fever, with a single death; and 2 cases of cerebrospinal meningitis and 3 deaths. The total number of enteric fever cases reported since the first of the year is 6,475, of which number 915 have proven fatal.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

CONSERVATIVE OPERATIONS UPON TUBERCULAR TESTICLES—ARREST IN DEVELOPMENT OF THE RADIUS—PHTHISIS AND ALCOHOLISM—NON-MYXEDEMATOUS INFANTILISM—SIALORRHEA AFTER IODID OF POTASH.

AT the Surgical Society, April 19th, ROUTIER spoke of conservative operations in the treatment of tuberculosis of the testicle. In aged patients bilateral castration may be acceptable, but in young men it is often refused. He therefore treated a number of such cases by opening the abscesses, as they formed, with a thermocautery, destroying the affected tissue as far as possible. It is only in advanced lesions that castration is necessary. In his experience castration is never followed by the disappearance of tubercular lesions in the seminal vesicles or in the prostate.

BERGER asserted that he had seen both the prostate and seminal vesicles resume their normal size after the removal of tubercular testicles. Furthermore, he had never seen the disease develop in the other testicle after a unilateral castration.

POIRIER had a patient aged twelve years with tuberculosis of both testicles and one seminal vesicle whom he treated by the thermo-cautery with apparently perfect success.

MICHAUX had seen pulmonary tuberculosis follow castration. He therefore abandoned this for injections of camphorated naphthol into the affected tissues.

TUFFIER said that nothing is more variable than the evolution of tuberculosis in the testicle, a fact which serves to explain the different views expressed by different surgeons in regard to its course and treatment.

At the session of April 26th, BAZY spoke at some length on the same subject. Castration seemed to him to be the ideal procedure, but unfortunately it does not offer a sure guarantee against the spread of the trouble or its recurrence. That being the case, he preferred deep cauterizations, curetting, and similar palliative measures, which answered the purpose of a castration, and had the distinct moral advantage of preserving the testicles of the patient. He cited an instance in which he had cauterized the left epididymis of a patient having grave constitutional symptoms. These were at once improved by the

local treatment. Two years later the patient returned showing symptoms of a similar character, due to lesions in the right testicle and prostate. The right epipidymis was cauterized, and improvement again followed the conservative operation. One year later the left side was quite healed and the right nearly so, while the abscess in the prostate had apparently undergone cicatrization as it was small and hard.

At the session of May 3d, TUFFIER spoke of the benign course which tubercular disease of the testicle sometimes pursues, mentioning that he had had a patient with this trouble under observation for fifteen years, and that during this long period he had remained in substantially the same condition. Clinically it is useful to separate those cases in which the lesions are diffuse, and simulate neoplasms from others in which the lesions are limited. Castration is the only hope in the former class; while in the latter, one may safely rely on general treatment in the most favorable cases, and upon partial operations in those which are more advanced. An apparent recurrence may be due to a simple inflammation about silk threads, as had recently happened in his experience.

GERARD-MARCHANT showed a boy, April 26th, who had sustained a fracture of the lower end of the radius at the age of eight years. The ulna continued to grow at the normal rate, but the radius kept so far behind it that the normal hand was displaced so much that it became impossible for the patient to seize anything with that hand. Accordingly a resection of 2 cm. (about one inch) of the lower portion of the ulna was performed. The functional result was satisfactory. The arrest in development of the radius was thought to be due to the fact that the line of fracture passed through the epiphyseal cartilage.

FELIZET doubted the explanation given. Such an arrest of development was very rare, and if the cause assigned was the correct one, it ought to be quite common. He mentioned a similar instance in which after scarlet fever the development of the tibia ceased, while the fibula continued to grow until a resection of a part of the fibula was necessary to restore the proper relations between the two bones.

At the Medical Society of the Hospitals, April 21st, JACQUET said that he had investigated the antecedent history of seventeen phthisical patients, and found that in sixteen instances they had at some time been users of large quantities of alcohol. They all drank brandy or rum, and the most of them absinthe as well. In most of these patients the period of ulceration and cavity formation came on rapidly, one or two years after the beginning of the disease, thus showing that it is not true that phthisis has a fibroid tendency in alcoholic drinkers. In many of these patients there was a hereditary tendency toward tuberculosis or alcoholism, but making due allowance for this as well as for the fact that alcoholism is common among the population from which these patients came, it nevertheless remains true that phthisis is frequently contracted "over the bar."

At the session of April 28th, DELPEUCH showed autopsy specimens from a girl aged twenty-five years, whose bodily appearance was that of a child of twelve or fourteen. There was scant hair on the pubes and in the axillæ, the breast glands were undeveloped, and the uterus and ovaries were in an infantile condition. The thyroid gland was normal in size and character. The relations in measurements of the trunk and whole body, according to the tables of Riccardi, corresponded to those of a girl of twelve or fourteen years of age. There was old mitral stenosis with the usual secondary changes in the pulmonary artery and right side of the heart, with a lesser hypertrophy of the left side. The skeleton was fully developed, the last epiphysis, that of the inner end of the clavicle, being solidified. The aorta was narrow and presented the lesions of chronic endarteritis. It was difficult to say what was the cause of these lesions. The heart trouble was antecedent to an attack of smallpox and of rheumatism which the patient had at the age of fifteen or sixteen years. Probably there was a stenosis due to hereditary tubercular taint, and the inflammatory processes invaded the organs secondarily. The case illustrated the point that there is a difference between myxedematous infantilism and the form of infantilism, as in this case, where the thyroid gland is normal.

May 5th TRIBOULET presented a woman who for an attack of the grip took daily for a week 3 grains of sulphate of quinin, and then daily for a week 8 grains of iodid of potassium. The day after the administration of the iodid had ceased she began to be troubled with an increased flow of saliva, a symptom which increased for a month, with the added peculiarity that the flow stopped during sleep.

LE GENDRE said that he had observed two similar cases, and had come to the conclusion that the sialorrhea was of nervous origin.

SOCIETY PROCEEDINGS.

AMERICAN GYNECOLOGICAL SOCIETY.

Twenty-fourth Annual Meeting, Held at Philadelphia, Pa., May 23, 24, and 25, 1899.

(Continued from page 672.)

FIRST DAY—MAY 23D.

DR. CHARLES P. NOBLE of Philadelphia, in a paper on "Early Abdominal Sections for Fibroid Tumors, with a Tabulated List of All Operations Prior to 1865," said: In America the first successful myomectomy was performed by John Bellinger in 1846. In 1853 Burnham performed a successful myomectomy. The operation was originally undertaken with the belief that the condition was an ovarian tumor. When the abdomen was opened the tumor bulged forth through the wound and he was obliged to remove it. Kimball was the first American to successfully perform this operation, after having previously made a correct diagnosis.

DR. WATHEN of Louisville opened the discussion by saying that he had talked this question over with Dr. Kimball and that Dr. Kimball thought that he was entitled to the credit of the operation.

DR. PALMER of Cincinnati said that the subject

to him was a most interesting one, as he had discussed it at length before the Society in 1880. At that time he had collected 165 cases of abdominal section, with a mortality of fifty-one per cent., most of these operations being performed after an error in diagnosis had been made. Fifteen to twenty years ago Dr. Thomas Wood of Cincinnati deliberately opened the abdomen in these cases and, after having tied the tumor off with heavy silk ligature, removed the tumor. He was successful in five out of eight cases.

DR. A. P. DUDLEY of New York said that he had talked to Dr. Kimball and he told him that after Burnham's case of suprapubic hysterectomy the patient fell out of bed. Dr. Burnham being away Dr. Kimball was sent for and he was obliged to replace about six feet of intestines before sewing up the wound.

DR. REMEY of Cincinnati said that Dr. Wood's instruments for this operation consisted of only such as he could carry in his pocket-case. He used to cut the uterus wherever he could best get at it, first tying it off with a strong silk ligature, but if that was impossible he would transfix it. He rarely had any trouble—some hemorrhage. Dr. Wood was a man of strong presence, much force of character, a fine mind, a magnificent constitution, and much personal magnetism. Unfortunately he died of sepsis contracted from a patient.

DR. NOBLE closed the discussion by saying that he had only given the history of the operation previous to 1863 for the reason that the history of the operation after that time was familiar to everybody.

DR. J. WHITRIDGE WILLIAMS of Baltimore read a paper on "A Case of Spondylolisthesis, with Demonstration of the Pelvis," in which he said that the patient was a colored woman, aged twenty-two years, four feet, ten inches in height. She was pregnant for the first time, and at full term. The duration of pregnancy had been uneventful. Her pelvis in the usual diameters measured 24, 27, 29, and 18 cm., respectively. Her abdomen was pendulous, and above the right hip was a concavity, and on looking at her back a marked scoliosis was evident in the lumbar region. On vaginal examination the hymen was found to be absent, the pelvic outlet fairly large, and a large bilateral tear of the cervix uteri was present. The dislocation downward of the lumbar vertebræ could be easily felt, but on careful examination he failed to feel the bifurcation of the aorta. The patient denied a previous pregnancy which seemed the most likely cause of the cervical tear.

Her previous history was good. Had enjoyed excellent health until her thirteenth year when she had had a fall upon ice and injured her right hip. Had some rheumatism subsequent to this injury and finally noticed that her right hip was higher than her left. She has always worked hard. She exhibited the characteristic "duck" gait on walking. On being questioned more fully she admitted having had a child four and one-half years ago after an easy labor. Cæsarian section was proposed to her, but after consulting with friends she absolutely refused to allow the operation. She finally went into labor and symphysiotomy by the open method was the operation decided upon. The child was born alive after this operation, but there was much tearing of the maternal soft parts. The patient was markedly shocked after the operation and the next day there was much abdominal distention. On the fifth day the wounded soft parts looked well but on the seventh they were much broken down and on that day she died, death being preceded by marked air hunger. The autopsy was held five days after death had taken place and there was marked decomposition. The uterus was torn from the cervix to the broad ligament. No trace of peritonitis or septic embolus could be discovered. Dr. Williams showed preparations of the bones from this case and they presented the usual features of marked spondylolisthesis. He then reviewed at length the history of this disease and the factors entering into its causation.

DR. DAVIS of Philadelphia opened the discussion by saying that he had had a case somewhat similar at the Philadelphia Hospital in which delivery had been accomplished by forceps. The previous history pointed to a congenital origin of the condition. Mild degrees of this deformity are not uncommon, it being not nearly as rare as is generally supposed. In these cases labor is not always difficult, and where symphysiotomy is performed the head should always be delivered first, as when this is done the danger of death is greatly lessened. In one case death occurred after symphysiotomy as the result of cellular necrosis with slow absorption.

AFTERNOON SESSION.

DR. J. WHITRIDGE WILLIAMS on behalf of the committee appointed at the last meeting to investigate the efficacy of antistreptococcic serum in the treatment of puerperal sepsis read an elaborate report, giving a résumé of the literature on the subject, supplemented by the personal experience of the individual members of the committee. Finally the results of the latter were combined with those found in literature for the purpose of deducing therefrom reliable conclusions for guidance in the treatment of the disease. The history of antistreptococcic serum from a practical standpoint began February 23, 1895. On that date Marmorek presented a communication to the Société de Biologie of Paris, in which he stated he had been able to so increase the virulence of streptococci that they would always produce death in rabbits and that he was preparing an efficient antistreptococcic serum. By passing the streptococci repeatedly through the bodies of animals he was able to raise their virulence to such an extent that the one-one-hundredth-billionth of a cubic centimeter of the bouillon and blood-serum culture will kill a rabbit within twenty-four hours. When a single one of his virulent streptococci was introduced into a rabbit its death was certain. A few weeks later Marmorek presented a second communication in which he stated that he had used his serum in forty-six cases of erysipelas with most beneficial results. Later he treated sixteen cases of puerperal fever by the same method. In all of these cases he examined the uterine discharges bacteriologically and refrained from all treatment while using the serum. Seven of these patients were infected

with pure streptococci and all of them recovered; in three the streptococcus was combined with the colon bacillus and all of them died; in five cases the streptococcus was associated with the staphylococcus and two of these died; while in the last case, in which the infectious agent was the colon bacillus only, the serum had no effect. Marmorek concluded that his serum was a most efficient remedy in cases of pure streptococcus infection, but useless when the infection was mixed. In April, 1896, Charpentier reported forty cases of puerperal infection in which this antistreptococcic serum was used by fourteen different observers. Of these forty patients only twenty-four recovered. Of those cases in which the streptococcic infection was pure, *viz.*, sixteen, seven died. Of eight cases of mixed infection four died. Bacteriologic examination was not made in the other cases.

The serum has been used quite largely in France and England, but very little in America or Germany. Up to the present time 354 cases have been reported, of which 189 patients infected with pure streptococcus recovered, and 40 died, a mortality of 21.1 per cent.

Coming to the second part of the report in which the personal experience of the committee appeared, Dr. Williams reported 23 cases of puerperal sepsis in which bacteriologic examinations were carefully conducted. The temperature in these cases varied from 101° F. to 106° F. Of these 18 were examples of pure streptococcus infection, and 5 of combined streptococcic, staphylococcic, the colon and the gas bacillus. None of them had peritonitis; 10 were very sick, 6 moderately sick, and 5 slightly ill. Mild treatment was employed in all, consisting of one intra-uterine douche, and the adminstration of large doses of strychnin and whisky, pushing each to the full physiologic effects. Of these 23 patients 22 recovered.

DR. PRYOR treated 15 cases with 1 death, by a method to be described by him later in this discussion.

DR. FRY treated 7 cases with 1 death with intra-uterine douches till the character of the infection was established, and then with antistreptococcic serum.

The results of their studies and investigations were summed up as follows:

1. Marmorek's claim that his antistreptococcic serum will cure streptococcic puerperal infection does not appear to be sustained by the results thus far reported.

2. The great variety of streptococci necessitates a special serum for each species of this bacillus (accepting the theory that an efficient serum can be obtained from each).

3. The mortality of streptococcus endometritis if not interfered with is about five per cent., and such patients tend to recover if not too energetically treated locally.

4. Curettage and total hysterectomy are unhesitatingly condemned.

5. If the infection tends to involve the peritoneum Pryor's method of packing with iodoform gauze may be of service.

6. The use of Marmorek's serum has no deleterious effect in these cases.

DR. WILLIAM R. PRYOR, as a member of the committee, gave his personal experience in the management of cases of puerperal sepsis. All cases are excluded from consideration which have failed upon examination to reveal the presence of streptococci. The treatment consists in thorough cleaning of the uterus by curette for the double purpose of removing infected tissue and producing a raw surface for absorbing iodin from the iodoform gauze with which the uterus is then packed. An incision is then made into Douglass' pouch, the contained fluids evacuated, all lymph planes separated, and the pelvis thoroughly packed with iodoform gauze in such a way as to isolate the uterus completely from contact with its peritoneal surroundings except in its anterior aspect. By this extensive application of iodoform gauze to the peritoneal surfaces, as well as the interior of the uterus, the iodin is promptly absorbed by the lymphatics, thus rendering the lymph streams innocuous to the infection. The promptness with which the iodin is absorbed is apparent from the fact that it appears in the urine of patients thus treated three hours after the application of the gauze.

The elimination of the iodin from the system is hastened in grave cases by the intravenous infusion of saline solution, and in all cases by high rectal infusions of salt solutions. By this treatment fourteen patients have been saved out of fifteen treated.

"The Surgical Treatment of Acute Puerperal Sepsis with Special Reference to Hysterectomy," was the title of the next paper, read by DR. H. N. VINEBERG of New York. He began by asking what clinically constitutes *acute* puerperal sepsis. Some hold that the term acute should be applied only to those cases that set in with severe symptoms during the first three days of the puerperium, and which usually terminate fatally any time between the fifth and tenth day. Cases protracted beyond that period they would designate as chronic. A time definition, according to the speaker, would be an infection that takes place shortly before, during, or immediately after labor, that manifests itself by symptoms during the first week of the puerperium, and in which the symptoms persist continuously, with variable severity, until the disease ends in death, in a cure, or passes into a chronic state. But the practical question is to determine whether all fatal cases of acute puerperal sepsis run their course within a given period (five to ten days). The writer collected at random from the literature of the past few years reports of thirty-eight cases in which death occurred from the eleventh to the fifty-fifth day of the puerperium, showing the average of twenty-three days as being the period of a fatal termination. Among these were ten cases of septic peritonitis (of all puerperal lesions the most rapidly fatal) in which death occurred from the eleventh to the twenty-eighth day of the puerperium, or showing an average of more than fifteen days.

The essayist does not agree with those who hold that once systemic infection has set in surgical intervention can do no good. They maintain that the patient will die whether operated upon or not. This is in direct contradiction to daily experience with sepsis arising in other parts of the body, and that arising in the parturient canals obeys the same laws as that elsewhere. But the human economy has its limitations in its power of resistance to bacterial invasion and this very circumstance

forms one of the strongest arguments in favor of timely surgical intervention. Remove a uterus, the walls of which are a breeding-place for bacteria, and the patient may get well, though she shows all the signs of systemic infection; fail to do this and it is more than likely that the reinforcements of the enemy from the reserve army in the uterus will in time destroy everything before it. It is his custom when first called to a case of acute puerperal infection to make a very thorough inspection of the whole lower parturient canal, in order to determine the presence or absence of any wounded surface. If any is found and it shows an unhealthy appearance, it is treated on the general surgical principles of free drainage and frequent irrigation with some antiseptic solution. If it be found that the site of infection resides in the uterus, that organ is subjected to a curettage under narcosis. The curettage is followed by frequent intra-uterine irrigations if the septic manifestations do not promptly subside. This is best carried out by leaving two rubber catheters within the uterus.

The advice frequently given that in curetting a septic uterus care should be taken not to curette deeper than the granulation-zone, first described by Bumm, is absurd in the extreme, for how is it possible to curette the endometrium with the sense of touch, or even with the aid of sight, and avoid a structure in it that is visible only with a high-power microscope? Bumm found the granulation-zone fully developed only in the milder forms of uterine infection in the products obtained by curetting the uterus. The patients upon whom these observations were made recovered, and presumably they were bettered by the curetting, or at all events, they were not injured thereby. In the severe and fatal cases of uterine sepsis the granulation-zone did not exist at all, or was only poorly developed. The patients were not curetted, yet they died.

The majority of cases of uterine sepsis, even of the more serious type (not the so-called cases of sapremia), will yield to curettage and intra-uterine irrigations faithfully carried out. Occasionally, however, the treatment will fail to arrest the progress of the infection, as will be manifest by the pulse and other well-known signs. In the event of such a contingency, an exploratory laparotomy is indicated, one's further actions to be guided by the pathological lesions found. In the majority of these cases total hysterectomy will be necessary. The indications for such a radical procedure cannot very well be described; they must be based on close clinical observation at the bedside. In a general way they may be stated as follows: if despite the foregoing treatment, the pulse goes above 130 and grows weak and irregular, and there are signs of a commencing peritonitis, or a deepening of the septic manifestations, and nothing is found outside the uterus to account for the symptoms, the uterus should be removed.

In making his indications, the writer seeks no aid from a bacteriological examination of the contents of the uterus for the reason that such an examination is extremely unreliable and unsatisfactory, even in the hands of expert bacteriologists. Further, the finding of any given pathogenic micro-organism would be no aid in estimating the severity and probable outcome of the case.

Regarding the technic, he favors the abdominal route because these deeply septicized patients withstand any loss of blood very poorly, and more perfect hemostasis can be carried out through a good-sized abdominal incision than through the vaginal canal. In cases of puerperal infection in which a fairly large collection of pus forms in the pelvic and lower abdominal cavities, the course to be pursued will depend upon their situation. If they are so situated that they can readily be evacuated by an incision in the vagina, or by one above either of Poupart's ligaments, so that the peritoneal cavity is not entered, no time should be lost in carrying it out. But if they are so placed that they cannot be reached by either of these incisions, judicious delay (the patient in the meantime being kept under close observation) is advisable, with the hope that in time their situation will become more favorable. When such a course is not justifiable on account of the general condition of the patient, he makes a median abdominal incision in order to explore the relationship of the abscess. The median incision is then closed, and one is made directly over the mass and the pus evacuated without entering the general peritoneal cavity. The principal object to be arrived at in these cases is evacuation of the purulent collection and the establishment of free drainage without risk of soiling the peritoneum, for it cannot be too forcibly borne in mind that the pus in acute puerperal sepsis is highly virulent, and that the slightest soiling of the peritoneum with it is almost certain to be followed by disastrous results.

DR. J. MONTGOMERY BALDY of Philadelphia read a paper, entitled "Report of a Case of Kraurosis Vulvæ," in which he discussed at great length the symptomatology, and macroscopic and microscopic pathology of this interesting condition. After going over the literature at some length the theories of its etiology were spoken of.

The consensus of the discussion was that this is a similar pathological condition to trachoma of the eyelid and requires similar treatment. Local applications of the yellow oxid of mercury of the strength of 4 grains to the ounce of vaselin had been most successful, the majority of the patients being cured in six months.

DR. ROBERT L. DICKINSON of Brooklyn then read a paper, entitled "Is a Sloughing Process at the Child's Navel Consistent with Asepsis in Childbed?" After the amputation of the cord the same surgical principles should be applied as those that govern other amputations. The following principles are directly opposed to the prevailing practice but would seem to bear on the matter: (1) The mass ligature should be avoided. Hemorrhage follows its use, due to the shrinking of the gelatin in the cord. The ligature belongs on bared vessels. (2) A hernial opening should not be closed by a granulating scar. Primary union is readily substituted. (3) If the location of the future line of demarcation be known removal should be practised at or beyond that point. In the case of the funis one knows where the line of separation is to be. (4) That form of operation should be chosen which will do away with sloughing. (5) To frankly sever the cord

at the skin margins with ligation of the vessels on suture, one or both, brings about safe, clean, and prompt healing. When this be done the navel of the second day looks like the navel of the fifteenth or twentieth day of the old method.

DR. I. S. STONE of Washington, D. C., then read a paper, entitled "The Use of the Compression Forceps in Salpingo-oophorectomy, with Remarks upon the Angiotribe." This instrument, although somewhat clumsy at first sight, is a valuable one, leaving a clean-cut stump. There is no hemorrhage, and ligatures are unnecessary. In every instance the result following its use had been a good one, and the instrument evidently had come to stay.

DR. HANKS of New York opened the discussion by saying that he had performed fifteen operations with this instrument, and in each case the result had been most satisfactory. In only one case had there been a slight secondary hemorrhage, but there was good reason for that as the parts were subjected to considerable traumatism by performing ventral suspension immediately after the operation.

DR. DUNCAN EMMET of New York said that he had used it once with good results, but he could not see that the angiotribe had any advantage over hemostatic forceps, except perhaps it did not have to be left on as long. If the actual cautery be used also the hemostatic forceps are better than the angiotribe.

DR. J. RIDDLE GOFFE of New York said he considered the angiotribe to be a distinct advance on the forceps operation. At first it looked as if it were a clumsy instrument, but after using it in two cases he found it to be not tiresome, and that it answered its purpose admirably. Both of these were serious vaginal operations. In the first case the uterus could not be drawn down, so the instrument was passed up, clamped, allowed to remain in situ for one minute, then the incision was made, and two minutes later the angiotribe was removed and absolutely no hemorrhage followed. The second case was one of double ovarian abscess, in which the uterus could not be drawn down. The angiotribe was used and the operation performed without difficulty. Both patients made excellent recovery.

DR. EDEBOHLS of New York then said that he had given the angiotribe a fair trial, and did not like it. The ligature method is preferable as it is dangerous to use the angiotribe. Where you cannot see just how much tissue you are including in your grasp when you clamp it, the ligatures are easier to apply and the operation can be done faster. The chances are that sloughing will follow the use of the instrument as the result of the compression.

DR. I. J. WATKINS of Chicago then read a paper on "Vaginal Incision and Drainage for Simple Non-pedunculated Cysts of the Broad Ligaments." The essential part of this operation consists in opening the cysts at their most dependent parts through a vaginal incision. After draining the cyst it becomes obliterated by agglutination. No organs are removed, no sutures are required, and the peritoneal cavity is not invaded. Enucleation and the transperitoneal method are both dangerous and difficult. He has performed this operation five times, and in no case has there been a recurrence. In each instance the convalescence was uneventful.

SECOND DAY—MAY 24TH.

MORNING SESSION.

The first papers were by DR. HOWARD A. KELLY of Baltimore, on "The Avoidance of Infection Following the Operation for Complete Tear of the Rectovaginal Septum." "The Localization of Obscure Pain in the Side." A wide field for discussion is opened up by this very interesting subject, for though the classical method of treating complete tears is in general satisfactory it is not always so, for there is a definite percentage of complete failures and a large number of partial failures. Under the latter may be grouped those cases in which a small fistula persists after the operation. Another class of cases is those in which the bowel is not retentive to a greater or less degree. This may be a very slight deficiency, as a weakness of the sphincter allowing gas to pass through, while on the other hand it may be so serious that involuntary bowel movements constantly occur. My efforts have been to so alter this operation that this difficulty is done away with. In some cases of complete tear the patients have had complete control, which may be explained by saying that this control was due to a powerful action of the internal sphincter. In one case this had been so for the past twelve years. The technic of the operation is as follows: The incision is made across the septum beginning at the outer side of the internal sphincter and well above the junction of the vaginal and rectal mucosæ. Then a denudation is made above as in the Emmet operation. A finger is then put into the bowel as a guide to its exact location, and a flap dissected loose and brought down like an apron, of course great care being taken not to wound the bowel. By doing this the internal sphincter is exposed and laid bare. After dissecting this sphincter loose the sides of the septum are approximated with buried figure-of-eight sutures. Three or four of these sutures are all that are required, and when properly applied, they do away with all danger of a central dead space which would be very likely to break down. The parts being in snug apposition the external sphincter is united by either interrupted or a continuous catgut suture. The vaginal surface and the skin perineum are then closed in the usual manner. Then the flap is brought together by a few interrupted sutures. It is now no longer a case of rectal tear, as there is no wound in the rectum, the wounded surface being pushed outside of the anus. The greater the pressure of fecal matter the further outside it goes. So what would otherwise be a place for infection is now removed. The operation has two principal advantages over the Emmet operation in that (1) the central dead space is done away with, and (2) the usual source of infection in these cases is removed.

During the discussion of Dr. Kelly's paper DR. THOMAS ADDIS EMMET of New York was called upon by the president to express an opinion. He said that the closure of a lacerated sphincter is one of the simplest operations in surgery and the description of it has been much over-

done. There is no reason for flaps; the case should be treated as one would treat a case of vesico-vaginal fistula. He has closed these tears for the past twenty years by an interrupted suture. It is to be remembered that there is a considerable retraction of the muscles and that many men make their mistake by only catching the outer fibers of the muscle in their sutures. The vaginal wall also retracts and by this retraction is greatly thinned. All that is necessary is to denude the edge of the muscle on the vaginal wall and the septum can then be made of any desired thickness. The wound should then be closed with interrupted sutures.

When turning up the vaginal wall care should be taken to bring the fold down to the common vaginal fold. We have two arcs of a circle, one on the vaginal side and one on the rectal side and so the sutures should be applied like the spokes of a fan. At the level of the tear the first suture should be put and the next one placed behind the edge of the muscle. This first suture will bring the parts together while the one behind the muscle rolls the muscles up. It is most important that the bowels be moved daily with salines after the first twelve hours, and when this is not done the operation is very apt to fail.

Dr. Kelly then read the second of his papers ("The Localization of Obscure Pain in the Side") and said this is nothing more than a demonstration of some further uses of the renal catheter. This catheter has been extensively used during the past twelve years for securing specimens of urine from either kidney, for dilatation of ureteral stricture, and as a material aid in the diagnosis of kidney-stone, and pyelitis. Many patients have an obscure pain in the side, and careful physical examination and questioning often fail to accurately locate it. In many cases this diagnosis can be facilitated and often accurately made by passing a renal catheter into the pelvis of the kidney, and then injecting some bland fluid. The result of this is renal colic in whichever kidney so treated. His first case was one of persistent pain in the right side in the region of that kidney. Renal colic was artificially produced, and the patient said that her ordinary attacks of pain were in the same place. So an incision was made, and on the kidney being opened the pelvis was found to be greatly dilated. The pelvis was reduced to its normal size by stitches, the patient made an uninterrupted recovery, and has had no return of the pain. The second case was one of great difficulty, there being quite a large mass on the right side in the region between the kidney and the gall-bladder. The renal catheter was passed and the pain produced was not like the pain she generally had, so the diagnosis of disease in the gall-bladder was made and subsequently confirmed by operation. The third patient suffered from pain in the right side, and a large mass was found on examination. On inducing renal colic the patient said that the pain of the colic was somewhat in front of the usual seat of her pain. So an incision was made over the gall-bladder, which was enlarged and adherent to the kidney. It was opened and 500 small gall-stones removed. All of these patients made an uninterrupted recovery.

The President of the Society, DR. JOSEPH TABER JOHNSON of Washington, then delivered his address, and said in part: With the twenty-fourth anniversary of our Society comes our annual reunion for scientific, social, and literary purposes. One of the most important points in the presidential address of the past has been the prophecy of great achievements in the future and the account of advances in the past. The doctrine of expansion has been forced on gynecologists, but the stages of evolution are slow. Influences which succeed in many other directions will never produce a successful abdominal surgeon, who, unlike the poet, is not born but is made by hard work, bitter disappointment, and severe long and special training. It is not the following of cast-iron rules of practice that has made remarkable achievements, but they are the results of matured and trained judgment. It must be admitted that the good old rules are very safe ones for the beginner to follow. Much is now said and written about conservative gynecology that it is hardly necessary for me to say much more, but it may be truly said that though the gynecologists of the next century will not practise it all the time and on all people, yet they will practise it some of the time.

DR. HENRY C. COE of New York then read a paper, entitled "Thrombosis Following Celiotomy in Aseptic Cases," which will appear in a subsequent issue of the MEDICAL NEWS.

DR. B. BERNARD BROWNE of Baltimore read a paper on "Inversion of the Uterus, with a Review of the Various Operative Procedures for Its Treatment, and a Description of the Author's Operation for Chronic Inversion," and said: Inversion of the uterus is a very formidable accident; if occurring during parturition and its reduction be not almost immediately effected death often results from the violent hemorrhage and shock which it produces. Should the patient survive the acute stage pain and hemorrhage continue at intervals until the child is weaned, when profuse menorrhagia and metrorrhagia set in, followed at intervals by a characteristic white discharge. If the lesion be not corrected she drags out a miserable existence for months, or perhaps years, finally succumbing to anemia and exhaustion incident to her condition. This is the most extraordinary of all the physical lesions of the uterus as it is produced by a displacement which the organ executes upon itself, thus reversing the order of nature. It was of more frequent occurrence among the ancients than at the present time, probably as the result of the women being delivered either standing, kneeling, or when seated on a hollow stool. In any of these positions sudden and violent expulsion was liable to occur and so produced that form of traction upon the cord, placenta, and fundus of the uterus, which is one of the most potent factors in causing inversion. In the Bible, in the first chapter of Exodus we read that Pharaoh, King of Egypt, tried to prevent the rapid increase of the Hebrews by ordering the midwives to kill all male children as soon as they were born. The midwives did not do it, and excused themselves by saying that the women were delivered before the midwives could get to them, thus showing how fast was the labor

and how rapid the expulsion. Numerous scientific writers of antiquity give accounts of the etiology, symptoms, and treatment of this condition. An especially good account is given by Hippocrates, and also by Celsus. However, it was not until 1847 that a new era arose in the history of inversion and the possibility of cure became an established fact. At this time Valentine de Vitry reduced, under ether, a chronic inversion of sixteen-months' duration, and from that time to the present a large number of cases have been cured.

At the present time this is an exceedingly rare condition occurring only about once in 2000 deliveries. Dr. Moore Madden states that out of 190,833 deliveries at the Rotunda Hospital there had been only one case of complete inversion. Braun states that out of 150,000 births in his hospitals he has not seen a single case of inversion. The predisposing causes are relaxation of some part or the whole of the walls of the uterus, a very considerable enlargement of its cavity, or adhesion of the placenta to the fundus. The exciting cause may be a short cord or one wrapped about the neck, distention of the uterus by a large amount of amniotic fluid, excessive coughing or sneezing, softness of the uterus, traumatism to the abdomen previous to labor, hydatiform growths in the uterus, fatty degeneration of the uterine walls at the placental site, intrauterine polypi, sarcoma of the fundus, and excessive straining during labor. Even after the uterus has been restored to its normal position after having been inverted recurrence may occur, as has been many times reported. Very rarely spontaneous reposition of an inverted uterus has taken place. The diagnosis is usually easily made; if error occur, it is most likely to be mistaken for a fibroid tumor or a polyp. The appearance of a pyriform tumor in the vagina and the absence of the fundus of the uterus on bimanual examination should make the diagnosis certain. The ancient and various forms of taxis in treatment, and later tampons and pessaries, were tried. The modern treatment is either by rapid or prolonged taxis, which failing, operation should be resorted to. Küster's method consists in opening Douglas' cul-de-sac, incising the posterior wall of the uterus and then reinversion by fixing the funnel with the index finger in Douglas' cul-de-sac and pushing up the fundus with the thumb of the same hand. The wound of the uterus and vagina are closed with deep and superficial sutures. The author's operation is performed by drawing the inverted fundus outside of the vulva with strong volsella forceps. An incision is then made through the posterior portion of the uterus, care being taken to avoid the Fallopian tubes and larger blood-vessels. Then through this incision Sims' large dilator is passed up into the cervix and expanded to its fullest extent. Then Nos. 2 and 3 of Hank's hard-rubber dilators are passed through the cervix after dilatation. The uterine incision is then sewed up with carbolized silk and with but slight manipulation the fundus is easily replaced through the now passable constriction. The advantages of this operation are that it is more certain and not more dangerous than prolonged or rapid taxis. There is no danger of bruising the tissue or rupturing the vagina. It is a much safer operation than laparotomy and one can be certain of always reducing the inversion at one operation.

THIRD DAY—MAY 25TH.

MORNING SESSION.

DR. HENRY T. BYFORD of Chicago read a paper on "The Remote Results of Shortening the Round Ligaments and Hysteropexy by Vaginal Section." He reported thirty-one cases of vaginal section for shortening the round ligaments and suture of the uterus over the bladder. In his earlier cases he did not draw the ligaments tight enough, and had one failure and two imperfect results. In his later cases he drew the ligaments tighter and attached the fundus higher up over the bladder, and had only good results.

He opened the abdomen in three cases some months after the operation and found that the adhesions had held, but that they could be easily separated by the finger. One labor at term, twenty-five months after the operation, was reported, with a normal confinement of a large, healthy child, and a normal position of the uterus two and one-half months afterward.

The steps of the operation are as follows: T-shaped incision in the anterior vaginal wall. Separation of bladder from uterus. Breaking up of adhesions. Drawing down of fundus of bladder and suturing of the fundus uteri above it, with formalin catgut at two points about an inch apart. Drawing down the round ligaments and uterine horns into the vagina, and suturing them as taut as possible to the uterus just above the uterine insertion. As he finishes the suturing of the ligament he throws the same catgut thread around the neck of the loop thus formed and ties it securely.

The method was not advocated as a substitute for Alexander's operation, but only for those cases in which there are adhesions to be separated, or the peritoneal cavity has to be opened for other reasons.

DR. A. LAPTHORN SMITH of Montreal then read a paper, entitled "Vaginal Celiotomy." The following were his conclusions: (1) Vaginal celiotomy is indicated in retroversion with fixation, in minor diseases of the ovaries and tubes, and in small fibroid tumors of the uterus. As a rule, it may be said that the vaginal method of freeing the retroverted adherent uterus is a more difficult procedure than the abdominal method, and vaginal fixation is not so reliable in curing the retroversion and prolapse as in ventrofixation. (2) If the uterus be freely movable, and there are no adhesions to be broken up, one is not justified in opening the peritoneal cavity, either by the abdomen or the vagina, in order to shorten the round ligaments. In such cases Alexander's operation is easy, quick, safe, and more reliable. (3) For the removal of pus-tubes the operation by the vagina is more difficult than by the abdomen in all cases excepting those in which the uterus is removed at the same time, when the uterus is split in halves and each half is removed with its corresponding ovary and tube. When clamps are used the vaginal operation is easier than the abdominal in which ligatures are employed. The vaginal operation is a little safer on account of the drainage which it affords,

but on the other hand, it offers more risk of injuring the ureters.

The author is opposed to the removal of the uterus even when both ovaries and tubes have been removed, owing to the bad moral and physical results, and he is opposed to the use of clamps as compared with ligatures because, although easier and quicker, the clamps prolong the convalescence owing to the bruising of the nerves of the broad ligaments. (4) For the removal of chronically inflamed ovaries and tubes, vaginal celiotomy has the following decided advantages: (*a*) It is less dangerous because the intestines are not exposed to the air or to bruising by the hands, or infection through diseased tissues passing over them so much as when the latter are removed by the abdomen. (*b*) Vaginal celiotomy is less painful, the incision in the vagina causing almost no pain, while the abdominal incision and stitching are exceedingly painful. After vaginal celiotomy morphin is rarely required; in abdominal celiotomy it is cruel to deprive the patient of it, although we know that her chances of recovery are lessened and her convalescence is prolonged by its use. (*c*) There is no telltale scar after vaginal celiotomy, which is often a matter of great moment to young single women who contemplate matrimony. The presence of the scar has to be explained and the patient is suspected of having been unfitted for marriage by the removal of both ovaries, when in reality one or both ovaries remain. (*d*) The danger of hernia. Although the author has had no case of hernia during the last three years owing to his method of suturing and leaving in the silkworm gut either permanently, or at least a month, and he considers this accident entirely preventable, yet, for those who meet with it, its possibility should have great weight in balancing the merits of the two operations. There is never hernia as a sequel to vaginal celiotomy. (5) Much good conservative work on the ovaries and tubes, and even on the uterus, can be performed by vaginal celiotomy with almost no risk or pain to the patient. The uterus and appendages can be brought out at the vulva through an opening in the anterior vaginal wall and cysts can be excised or burned out; one-half of one ovary can be amputated and the remaining bivalvular flaps neatly brought together with fine silk or catgut sutures. The closed tubes can be opened or a piece of the pavilion removed and a probe passed into the uterus, and the mucous and peritoneal layers of the remainder of the tube brought together with interrupted catgut sutures. Small fibroids, not larger than the normal uterus itself, can be cut out and the hole in the wall of the uterus closed with two or three rows of fine sutures. But it is very dangerous to open up closed tubes as long as there is any active inflammation or infection going on, because, by so doing, we break down the wall of defense made by Nature around the infected tubes to save the general peritoneal cavity from invasion. (6) Tubal pregnancy before rupture, and not later than the sixth or eighth week, can be readily removed by vaginal celiotomy. But vaginal celiotomy is contraindicated when the pregnancy has advanced to twelve weeks or has ruptured into the abdomen.

DR. J. WESLEY BOVEE of Washington read a paper, entitled "Abdominal Operations for Conditions Complicating Typhoid Fever." It is but a few years since the condition of patients suffering from typhoid fever was considered so severe as to contraindicate any grave surgical procedure. Then came abdominal section with closure of intestinal perforations incident to the disease, and with results better than those that followed the old policy of non-interference. But even among the most experienced it is quite conceivable that mistaken diagnoses are not rare, as in one of his cases in which he operated for pus-tubes, which entirely masked the symptoms of typhoid fever with which the patient had just been infected. He made a good recovery, and thirty days after the operation was free from fever, and after a short convalesence was entirely well.

DR. S. C. GORDON of Portland, Maine, then read a paper on "Conservative Gynecology," and said: Conservatism may be defined as being preservative or having power or tendency to preserve in a safe or entire state, protecting from loss, waste, or injury. To the patient conservative means the saving of her health when she has it, or the restoration of it when it is lost. To the surgeon the meaning is often different, and men of small experience, often in blind haste, signally fail by being conservative of the organs but not of the patient's health. Although the Tait operation has done much good in many cases, it would seem to be better if the uterus was removed with the appendages, for left in the pelvis it is simply a useless bag, without function and kept in a painful state of chronic passive congestion by the blood from the uterine arteries. The same may be said of the Hegar operation for fibroids; while in some cases the result is favorable, in many more the last state of that woman is worse than the first. Many women from whom one ovarian tumor and the ovary from which it grew were removed have required a second operation for a similar cause upon the remaining ovary, and it is a question as to whether or not it would not have been better to have removed the then apparently healthy ovary at the first operation. The ideal education of the gynecologist will be reached when one can make a sharp, clear diagnosis in this class of cases and so valuable time will not be wasted in useless experimentation.

REVIEWS.

A TEXT-BOOK OF ANATOMY. By American Authors. Edited by FREDERIC H. GERRISH, M.D., Professor of Anatomy in the Medical School of Maine at Bowdoin College. In one magnificent imperial octavo volume of 915 pages with 950 engravings in black and colors. Cloth, $6.50, *net;* flexible water-proof binding for the dissecting table, $7.00, *net*; full leather, $7.50, *net*. Philadelphia and New York: Lea Brothers & Co., 1899.

WE have here a text-book of anatomy that is worthy of America and its American authors. It is a thoroughly practical exposition of all the necessary facts and without

a word too much. The great difficulty with text-books of anatomy so far has been that in endeavoring to be especially complete too many details have been incorporated. This is a fault that has evidently been very sedulously avoided in this case and with striking success. The omissions are judicious, the result a very practical text book of anatomy for student and practitioner.

The illustrations are original and selected and constitute the striking feature of the book. All of them are thoroughly illustrative and the insertion of the names of parts upon the plates themselves rather than their indication by reference figures or letters, or by indicatory lines, makes a glance at the illustration suffice to settle an uncertain point and completes the mental picture very strikingly. The diagrams, of which the book contains a large number from the editor's hand, will certainly prove of great help to the student. In such subjects as embryology and the anatomy of the nervous system the diagrams, often in colors, demonstrate just those points that the anatomical teacher knows by experience students find it hardest to grasp. Their material presentation in diagrammatic form seems calculated to impress the vital points of their explanation upon the student mind. The origin and insertion of all muscles is diagramatically represented by red tracings upon the skeletal structures in a way that makes tiresome, lengthy descriptions, with constant cross-reference by the reader from text to illustration, unnecessary.

Relational anatomy and the surgical anatomy of the ligation of arteries are given a deservedly prominent place, and a series of colored plates brings the subjects out in every practical detail. The important surgical question of the tendon sheaths, their position and relations, receives here, for the first time in English at least, the detailed treatment that its practical significance demands for it. Colored plates show the sheaths distended and demonstrate very strikingly how they favor the spread of pus, especially in the hand and foot.

The illustrations for the nervous system are, as might be expected from the recent attention given the subject on all sides, very complete, while the lymphatic and lymphadenoid systems are treated with an illustrative detail in colored plates that is very commendable. The surgical importance of the lymphatics has only come to be recognized with the realization of its importance as regards infection and the question of recurrences in cancer. Too often its treatment was relegated to a few poorly illustrated pages that left very little impress on the student's mind and demanded his consultation of special treatises as soon as the exigencies of practice made him realize the importance of knowing just what the lymph connections of a part were, and where the origin of chronic lymphadenitis had to be looked for.

Some new and very useful features of the book seem to deserve special mention, though space will not permit us to do more. At the end of the book is a series of plates reproducing plane sections of the body from the cervical region downward, that give all the important medical and surgical relations of the internal organs at a glance. Following these is a series of photographs of various parts of a trained muscular athlete with the muscles that are made to stand out in various poses clearly indicated on accompanying diagrams. Last of all is a series of Röntgen-ray diagrams of the various bones and joints of the body, and of soft structures that cast shadows. This is the first complete set of normal skiagrams we have ever seen in a text-book. Their value for comparative purposes can scarcely be overestimated, as it is frequently not easy to make out the significance of certain appearances in skiagrams, or to know whether they are pathological or not.

The volume is beautifully gotten up, and in its morocco-like, flexible, waterproof binding, so different from the hideous waterproof covers that were in use in our schooldays, is as ornamental as it is useful. There is certainly a place for the book at our medical schools in this country, and we confidently look for widespread popularity for it.

A MANUAL OF ORGANIC MATERIA MEDICA; Being a Guide to Materia Medica of the Vegetable and Animal Kingdoms. By JOHN M. MAISCH, Phar.D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. New (seventh) edition, revised by H. C. C. MAISCH, Ph.G., Ph.D., Professor of Materia Medica and Botany in the Medico-Chirurgical College of Philadelphia, Department of Pharmacy. Illustrated. Philadelphia and New York: Lea Brothers & Co., 1899.

THE mere fact of the appearance of a seventh edition of this work is sufficient evidence of the place it holds in the colleges of pharmacy. Some changes have been made in this edition to make its contents conform to the new British Pharmacopœia and to add as synonyms the British name when it differs from that of the United States. The work is profusely illustrated with the gross and microscopic pictures of the plants of the pharmacopœia. In this edition, there is no doubt that its usefulness will be maintained and increased.

THE PRINCIPLES OF BACTERIOLOGY. By DR. FERDINAND HUEPPE, Professor of Hygiene in the University of Prague. Authorized Translation from the German. By DR. E. O. JORDAN, Assistant Professor of Bacteriology in the University of Chicago. Chicago: The Open Court Publishing Company, 1899.

PROFESSOR HUEPPE'S earlier works on the subject of bacteriology are so well known and have given so much valuable assistance to all works in this line, that the present contribution will be received and read with much pleasure. The book before us is in no sense a text-book and can be placed in the hands only of the advanced student with any expectation of profit. The subject is dealt with in a masterly, philosophic manner and, as the style is in essay form, with due regard given to all the theories pertaining to the matter in hand, the book stands apart from all others of a similar kind as a landmark, and many of its chapters are wonderful examples of the profound, logical mind of the author.

The first two chapters deal with the structure and vital phenomena of bacteria, and their chemistry is fully detailed. Even here many points of a highly practical

nature may be deduced. The following chapter gives a brief description of the most important pathogenic bacteria and makes most interesting reading, but cannot be profitably consulted by the student for all the minor details of growth, structure, and staining reactions.

The author believes that the bacillus of typhoid fever and the bacillus coli communis are two distinct species and does not uphold the theory that the colon bacillus is an œcoparasite which, under favorable conditions may become transformed into the typhoid bacillus and as such penetrate the tissues and produce the characteristic lesions caused by the latter organism. The author also inclines to the belief that there is but one pleomorphic malarial parasite and not three, or as Marchiafava would have us believe, four, distinct varieties.

In the following chapter on the cause of infectious disease there is much that is new and a careful study of the entire chapter will amply repay the reader. The author gives an interesting historical sketch of the various conceptions of infectious disease and does not hesitate to criticise the many conflicting views of various writers on the subject. The three theories propounded by Virchow, his opponents, and Pettenkofer are detailed, and then the author goes to show that all of these antagonistic theories are false and attempts through a series of well-grounded facts, with many logical deductions, to prove his stand. He first describes resistance and external conditions, the liberation of energy, atomic combinations and resistances, predisposition to disease, both acquired and inherited, and disease-stimuli. He shows that disease germs are not specific; that they are capable of producing other effects, of causing fermentations and forming pigments and states that "it is not the transferable 'essence' that determines the character of the 'specificity' of disease, but the similarity and the permanency of the condition of life." In discussing the various ways in which bacteria may affect man, the author explains that "they may cause changes by growing and multiplying in vital organs and through thus altering the metabolism of important tissues may influence unfavorably the metabolism of the whole body; or they may rob the body of important nutrient material and introduce the products of their own metabolism into the body of their host; or they may, in the act of satisfying their own need of energy, split off from the proteids of the human body certain substances which act upon man as poisons; or they may themselves generate poisons in their own bodies and, like poisonous plants, be in themselves poisonous." That the "specific" germ causes only one disease is shown to be false by the statement that similar symptoms may be evoked and that the tissues may show similar anatomical changes by the action of totally different germs. As for example, the production of nodules by the germs of syphilis, leprosy, glanders, and tuberculosis, the production of suppuration by the streptococcus, the tubercle bacillus, the anthrax bacillus, and the germs of typhoid fever and pneumonia; and the production of inflammation of the pia mater by the germs of typhoid fever, pneumonia, and tuberculosis.

That the same "specific" germ may cause very different affections is shown by the bacteria of erysipelas causing also suppuration or inflammation of the lungs; the pneumonia germs causing also blood-poisoning, inflammation of the cerebral membranes, or of the middle ear; the tubercle bacilli exciting tubercle formation, inflammation of the cerebral membranes, suppuration, etc.

Space does not allow us to show further the logical reasoning that causes the author to protest so strongly against Koch's conception of "specific" disease-germs. Suffice it to say that he believes in the natural and acquired predisposition or resistance to disease, and the adaptation to the similarity and permanency of the conditions of life. The author also does not believe in the "specific" curative action of drugs, but believes that the remedies act as stimuli to the human cells, and gives several interesting facts bearing on this point.

It is with the greatest satisfaction that we have read this book, and we can endorse many of the statements made. We urge all clinicians and pathologists carefully to study its pages. The translator is to be congratulated in giving us an exact and faithful reproduction of the original work. The book is amply illustrated and the paper and bookmaking of the very best.

THERAPEUTIC HINTS.

Liniment for Hemorrhoids.—

℞ Extr. hamamelidis fl. }
Extr. hydrastis fl. } aa . . 3 iv
Tinct. benzoini comp. }
Tinct. belladonnæ . . . . 3 i
Ol. olivæ carbolisat. (5 per cent.) . ℥ i.

M. Sig. For inunction two or three times a day.—*Adler.*

For Pruritus.—*Leredde* finds salicylate of methyl the most effective drug in the treatment of this ailment. He states that it is non-irritating and very rapid in its action.

℞ Methyl salicylat. . . . . 3 ss
Zinci oxidi }
Vaselini } aa . . . . . 3 v.

M. Sig. External use.

For Edema due to Chronic Endocarditis.—

1. Diuretic mixture:

℞ Potassii sulphat. }
Potassii bitartrat. } aa . . gr. lxxx
Potassii nitrat. }
Pulv. fol. digitalis . . . gr. xii

M. Ft. chart. No. xvi. Sig. One to three powders a day.—*Huchard.*

2. Purgative pills:

℞ Extr. colocynthidis }
Extr. rhei } aa . . . gr. xv
Cambogiæ }
Ext. hyoscyami . . . . . gr. vi
Ol. anisi . . . . . *m.* xlv.

M. Ft. pil. No. xx. Sig. One or two pills at night.—*Trousseau.*

THE MEDICAL NEWS.

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FIFTIETH ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT COLUMBUS, OHIO, JUNE 6, 7, 8, AND 9, 1899.

THE PRESIDENT'S ADDRESS.[1]

BY JOSEPH M. MATHEWS, M.D., LL.D.
OF LOUISVILLE, KY.,

Our National Body; Its Purposes and Destiny.—I imagine that when the father of this Association, the Nestor of American medicine, called around him a few devoted friends, accomplished physicians and surgeons, and effected an organization to be known as the American Medical Association, the first thought which filled their minds was the unification of the profession which they loved so dearly. It was their desire, no doubt, to bring together each year the men who were laboring earnestly and honestly for the elevation of the profession, that they in conclave could impart to each other the advance that each succeeding year had brought forth in their chosen calling, and this done in order that the sick and afflicted could be profited thereby.

Shall We Have a Local Habitation?—It is to be seriously questioned whether this Association, so numerically great as it is destined to be, or in truth is now, profits in any manner by its migration each year to distant parts of the Union. It cannot be well denied that a mistake has been made in the past in going to cities too small to entertain it. It certainly adds no dignity to this distinguished body to be thus traveling about, not to speak of the inconvenience occasioned to the majority of its members by so doing. Nor is it right or proper to impose upon a local profession the expense and trouble that it takes to entertain it. If the members will give the subject careful thought and consideration, I believe that they will come to the conclusion that the Association should have a local habitation. The natural question would then be, where could such habitation be found? In the selection of the same, many things would have to be considered. A city within easy reach which offered the most attractive advantages. Of all, the City of Washington is the best suited. The capital of the nation, it has the advantages that no other place can offer. With its great free libraries, it is the seat of learning; its magnificent Government buildings, its natural beauty, its select society, its two houses of Congress, the rendezvous of foreign representatives and diplomats, the home of the Medical Departments of the Government Army, Navy, and Marine Hospital Corps. Then, too, the idea is not far fetched that the Government, liberal always, would at some time lend the Association a helping hand in the way of securing a suitable building in which to hold its meetings and to become the owner thereof. Again it would be in touch with the legislative department of the Government, and it can readily be seen of what value this would be in securing much-needed reforms in a medical way. The *Journal* would here find the most suitable of all abodes; an atmosphere of refinement, education, and wealth. Its editor would all the time be on the alert, and much profit would come to the *Journal* from such surroundings and associations. I beg of you to give this matter your most serious consideration.

Clinics, Dinners, etc.—It has been a noticeable fact for a long time that the clinics which are held each year during the meeting of the Association, by the local profession of the city in which it happened to meet, very materially decrease the attendance at both the general sessions and of the various Sections. This should not be, and it is the duty of the proper officials of this Association to deprecate the holding of such clinics.

The Journal.—It is my painful duty to announce to you the death of Dr. John B. Hamilton, editor of the *Journal* of the Association. This Association never had a truer friend than he. Possessed of a clear-cut individuality, he was always outspoken, and what he did he at least believed to be for the best. We will miss his wise counsel in our deliberations. He made a most excellent editor of the *Journal*, and by his efforts it was brought up to the high standard which it occupies to-day. The Board of Trustees of the *Journal*, after careful consideration and deliberation, has selected Dr. George H. Simmons to succeed Dr. Hamilton as editor. You are to be congratulated upon this wise selection. Dr. Simmons is not an experiment, for he has won his laurels in medical journalism, and already stands among his editorial friends as the peer of any. Having come up from the ranks in journalism, he is ac-

[1] Abstract.

quainted with every detail, and that he will make a good editor goes without saying.

The Management of the Journal.—I trust that it will not be considered out of place if I make a suggestion or two in regard to the management of the *Journal*. It has been frequently urged that much appears in it that should be expurgated. In other words, that a censorship should be established, and many articles withheld from publication. I desire to disagree from this sentiment entirely and unequivocally. The *Journal* is simply the mouthpiece of the Association, and if one single paper read before this body is to be refused publication, then you have violated your pledge and obligation. Any member has the inalienable right to disagree with the sentiment of any paper, and the editor is in no wise responsible for said sentiment. If a paper is good enough to be read before any section in this Association, it is good enough to be published in the *Journal*. If any action is taken, it should be by the Chairman of the Section before which the paper is to be read, saying to the reader that his paper does not come up to the standard. But who will assume this responsibility? and who is to judge the judges? May it not be that a paper, although couched in bad English, might contain matter of real merit? By all means let the editor improve the *Journal* in any way that he deems proper, but let every paper read before this Association or its sections be published in the *Journal*.

There are many hundreds of worthy physicians in the United States who would readily join the mother society if properly approached. Many, very many of them are ignorant of the manner of becoming members. It may be urged that the salary necessary to secure an agent would be too large to justify the employment of such. In refutation I would urge that by such individual solicitation many more would be added to the membership than would be necessary to pay said salary, and they would become permanent members. It can be said, especially to young men, that the mere wearing of the button of the Association adds dignity and confidence.

The Secretaryship.—For several years there has been a heated debate, if not wrangle, at each annual meeting, in general session, over the secretaryship. This is both unseemly and undignified, and is to be much deplored. It seems to me that there is an easy solution to this matter. Let the editor of your *Journal* be the secretary of the Association. The Board of Trustees has wisely insisted that he devote his whole time to the *Journal*. It does, therefore, appear that the secretaryship should be one of his duties. By so acting he is brought into a closer relation with the business management of the Association, and with the active membership of the same. He would himself be responsible for a correct report of all proceedings, and be enabled to keep them without fault. The question whether or not any addition should be made to his salary for this additional work can be determined by the Board of Trustees. Our present secretary has served us long and well, and for his services in the past the Association should, and no doubt does, feel deeply obligated to him. I am sure that he would be the first one to acquiesce in any move that would enhance the business interests or the prosperity of the Association. I, therefore, very respectfully offer the suggestion.

The Public Health.—I shall content myself with employing the balance of my time in asking your consideration of a few things which are not only a menace to the public health, but also to the safety of society. Having served as a health officer for many years, my mind naturally turns into this channel, especially so when I see an opportunity to enlist the interest and cooperation of this large and influential body of physicians.

Tuberculosis.—It behooves this national body of American physicians to take some action, or at least to approve the movement to stamp out, as far as scientific effort can do so, that dread disease that kills one-seventh of the world's population—tuberculosis. A few days ago, May 24-27th, there was held a tuberculosis congress in Berlin, international in character. The Liverpool Medical Institution, one of the most important medical societies in England has recently appointed a committee of its members "to consider what further steps can be taken for the prevention of tuberculosis, and for the treatment of the disease in the human subject." This committee proposes to consider (1) the nature of pulmonary tuberculosis, its communicability and preventability; (2) the provision of sanatoria; (3) the more effectual methods of controlling spread of infection, and (4) the desirability of adopting some form of notification. The eradication of bovine tuberculosis received a powerful stimulus throughout the Empire when recently Her Majesty the Queen gave orders to have killed such of her herd of Jerseys as were shown by the tuberculin test to be infected.

At the recent meeting of the French Association for the Advancement of Science, the Section of Hygiene, at the suggestion of Professor Nicholas, passed a resolution pointing out that the convection of tuberculosis by inhalation is only one of the modes of infection, and that a larger part of the diffusion of the disease is played by contagion through the alimentary canal, as proved experimentally and clinically, urging the necessity of taking adequate measures to insure the sterilization and harmlessness

of articles of food. All Europe is wide awake to the importance of this subject.

From carefully prepared statistics it is found that of the deaths from all causes between the ages of fifteen and sixty years, one-third of the number are victims of tuberculosis, and that it kills four and one-half times as many people as do smallpox, scarlet fever, typhoid fever, and diphtheria combined. It is estimated that at any given time in Germany alone 1,300,000 persons are affected with tuberculosis, and Osler says that 1,200,000 in America have the disease at all times. One in every fifty persons has the disease. Over 13,000 die of tuberculosis in the State of New York every year. In every other American city the proportion of deaths is equally as great. So important has this subject become that at a recent convention held in England to consider the question, "How to Prevent the Spread of Consumption," the Crown was represented by His Royal Highness, the Prince of Wales, who presided over the meeting. Great encouragement was given the mové by Royalty and all others. The medical profession all over the world is deeply interested in the subject, the aid of governments is solicited, and every effort is being made to suppress this formidable disease. Since the germ which causes it is known, and its habitat, the condition under which it thrives, and that the disease is contagious, it does appear but rational to assume that it not only can be prevented by precautionary measures, but that it can be cured by proper environment and treatment. It is equally true that, even in the best of homes, the treatment usually accorded the patient is *nil* in effect and accomplishes nothing. Something more than this must be done if we expect to materially decrease the death-rate. What is that something? Detweiler believes that over twenty-four cent. of cases of tuberculosis are curable; Meisen, twenty-seven per cent.; Braymer, twenty-one and one-half per cent. And this under ordinary climatic and hygienic treatment. A much higher percentage of recoveries could be recorded if a real systematic and scientific treatment could be afforded these patients. Such a course can be instituted only in well-ordered and equipped hospitals designed especially for such inmates. In regard to the extent of the disease, I can do no better than to use the words of Professor Hirsch. He says, "It is emphatically a disease of all times, all countries, and all races. No climate, no latitude, no occupation, no combination of favoring circumstances forms an infallible safeguard against the onset of tuberculosis, however such conditions may mitigate its ravages or retard its progress. Like typhoid fever, phthisis dogs the steps of man wherever he may be found, and claims its victims among every age, class, and race." In answer to the question, What is to be done to prevent its progress? I would suggest a remedy in using the words of a resolution adopted at the International Congress of Hygiene in Brussels, in 1897: "The hospitalization of tuberculosis is urgent and will not long be withheld." In several large cities in the United States an earnest effort has already been made to carry this thought into practical utilization, especially so in Chicago and New York. It can readily be seen, however, that but a comparatively few out of this great number of afflicted can be accommodated in this manner. A country or State that is ever on the alert to prevent the landing of a foreign foe, or a hostile army, surely should ever be ready to aid in the suppression of a foe to the human race ten times more destructive to human life than the invasion of the country by an army of great size armed with the most improved rifles. Let us, then, in the name of humanity, invoke aid from the Government of this very humane people, in order to help put down and thoroughly conquer this foe.

During the last session of the New York Legislature a report of the Senate Committee appointed to investigate the advisability of establishing a State hospital for the cure of consumptives was made. Many reasons for the same were presented in the report. Among other things, the report read: "Tuberculosis is one of the most fatal diseases that the human race has to combat at the present day; its yearly victims inflict a serious and unnecessary drain upon the resources of the State—unnecessary because it is now demonstrated beyond question that by the adoption of proper preventive measures a large proportion of those who suffer from this disease may be saved. This is proven not only by the revelations of science, but by the results which have been obtained in the practical application of the means to prevent the spread of the disease. A large proportion of the cases brought under treatment have been cured, and so many have so improved as to be restored to the producing class. It is also shown that the efforts of the boards of health of this and other States, as well as in other countries, have so far succeeded in reducing the percentage of deaths from tuberculosis by the measures adopted that there is good ground for assuming that with wise laws properly enforced this disease may be almost wholly obliterated." Is it too much, then, to suggest that this Association, representing the most advanced thought of the medical profession of America, take action in this important matter? I would most respectfully urge you to appoint a committee to prepare a careful report on this subject and present it to the next Congress sitting, beseeching that this

Government erect, prepare, or donate hospitals or reservations in and at which the poor or others shall receive treatment for the cure of consumption. Also that it be impressed upon State boards of health in the various States the advisability of the respective States erecting similar institutions. The blind, the deaf, the insane, the feeble-minded, and other classes are so provided for, why not these? They are not able to care for themselves, and they are a menace to the public health. It must be confessed that in so far as the prevention of the disease is concerned that must come from the education of the people to the facts. The best way to accomplish this I leave to you.

The Antivaccinationists.—It may appear superfluous to ask that you consider, in the proper way, a rebuke to a certain class that is doing much to endanger the lives of our citizens, and whose meddling ways are giving the health boards of the various States much annoyance. I allude to the antivaccinationists, encouraged as they are by an antivaccination society. It seems strange and beyond belief that citizens of respectability and supposed intelligence should band themselves together to prevent a means of saving human life. But "'tis true, and pity 'tis, 'tis true." If these misguided people would only inform themselves of facts, patent to every reader of history, they might at least stop long enough in their mad career to think.

We may rest in peace and disregard the efforts of these half mad people, but we must not close our eyes to the fact that, by their loud cry, aided by political influence, given often for self-aggrandizement, they are endangering lives in every community. So far has this thing gone, that the vaccination law in England has but recently been amended so that only those who may desire shall be vaccinated. This is a menace to the public health and smacks of the Dark Ages. I again respectfully ask that you give to the medical profession in America an endorsement of their views in a resolution sustaining *compulsory* vaccination. The safety of the people from this most direful malady demands it.

A Crusade against Syphilis.—An International Medical Conference will be held at Brussels, Belgium, in the month of September next, known as "The International Conference for the Prevention of Syphilis." A statement of this fact has been sent the Honorable Secretary of State of the United States, through the Belgian minister at Washington, with the request that he appoint a delegation to attend this important conference. The Honorable Secretary in turn requested me, as your presiding officer, to name said delegation. This I have already done, as the call was for immediate action. In the preamble which accompanies this notice the following language is used: "The increasing propagation of syphilis and venereal diseases has become a serious danger to society, and it is important while there is still time to take efficient measures to stop the progress of this scourge. The spread of the evil is an incontestable fact; on this point all physicians who are in a position to know or observe its progress are agreed. The number of victims increases daily, and a serious consideration is that this malady is penetrating into a strata of society where it was formerly rarely seen. Scarcely any attempt hitherto has been made to check this social evil, or rather while some attempts have been made, without concerted action, without preconceived plans, and without an international understanding to success."

What can be said of Belgium in this regard can be said of the United States. Perhaps the ratio of cases is not so large, but this matters little. It is estimated that there are in this country between six and seven million people who are afflicted in one way or another with syphilis. A distinguished French authority says that one man in every four has the disease in France. When we consider that by this the very foundation of society is shaken, our families imperiled, the constitutions of our youths undermined, our women wrecked, it is high time, as this official says, that we turn our attention to the subject. The warning should be in words that the most illiterate man or woman can understand, and it should emanate from sources and places that would reach the greatest number. Our false modesty has been too pronounced, and has prevented us from giving to the common people valuable information; so we are in a measure, as a a profession, to blame for the great spread of this blighting curse.

The time has arrived when we as physicians, singly or when in convention assembled, should throw aside all restraint when dealing with this vital question. Fathers, mothers, sisters, brothers, and all others should be informed, and this information should be in the plainest language. The minister and the priest should aid the doctor in this praiseworthy undertaking. The doctrine should be inculcated into the young of both sexes that freedom from this awful condition should exist before the marriage relation is thought of. Upon this declaration rests the hope of the State, as well as of families, for neither good soldiers, good citizens, nor good husbands with tainted blood can be had. Please permit me to suggest that a committee be appointed from this body to report at the next annual meeting on this subject: "What Is the Best Means of Preventing the Spread of Syphilis?"

A Plea for Harmony.—In conclusion, let me beg of you that this meeting be one of perfect harmony and peace. Let nothing of an acrimonious nature be indulged in, but rather let your deliberations be characterized by patience, love for each other, and a desire to ennoble the profession to which you belong. For are we not brothers indeed, fighting for a common cause—the obliteration of the common enemy, disease? May your future life, each and all of you, be one of peace and perfect happiness, and may God grant to all a long life filled with good deeds. If fate should decree that any one of you should pass away before we meet again may you find eternal rest in "God's next country."

A CENTURY OF MEDICINE IN AMERICA.[1]

BY J. C. WILSON, M.D.,
OF PHILADELPHIA.

THE most wonderful century of the world's history draws to a close. Not in all time has there been such a period. The diffusion of knowlege, man's power over nature, and organized human energy have yielded results that mark the latest as the most brilliant epoch of our civilization.

Has medicine, that branch of human endeavor in which we are especially interested, kept progress with the times? Has the century done for it what it has done for other things? The question is not hard to answer. For medicine the changes of this year-hundred have been the awakening from the sleep of ages. The work of the early anatomists, the great discovery of Harvey, Auenbrugger's laborious revelation, Jenner's patient investigation, were stirrings in the slumber.

The dawn of the century was auspicious. Vaccination was widely practised, and its value everywhere recognized. Corvisart rescued the Inventum Novum from oblivion. Laennec invented the stethoscope and discovered auscultation. The methods were practically complete, but it took forty years and the influence of Skoda to make physical diagnosis a familiar art. The era of speculative medicine was fast drawing to a close. Fads and isms arose, as they will arise from time to time among the half-educated and the degenerate, but their influence has been with few exceptions shortlived and its reaction upon scientific medicine favorable. The microscope ceased to be a scientific toy and became an instrument of precision. New sciences ranged themselves as the handmaids of medicine. In 1858 Virchow issued the "Cellular Pathology as Based upon Physiological and Pathological Histology." It was but a step onward to experimental physiology, physiologic chemistry and experimental therapeutics. In truth the "close and severe" methods had come, and had come to stay. It was evident that these methods, and these only could be successfully used in the search for truth. The fairy-tales of science had become the everyday handbook of the doctor. We had fully entered upon the era of experimental medicine. Ether and chloroform anesthesia for operative purposes robbed surgery of half its terrors and rendered possible operations previously impracticable. The germ theory of disease came into prominence as a working hypothesis. Lister made the astounding discovery of surgical cleanliness, and early in the last quarter of the century the New Surgery replaced the old.

The obvious impossibility of the individual mastery of the medical sciences and of the art of medicine gave rise to the specialties. In truth the laboratories were the beginning of specialism, which became an imperative need, partly on account of the necessity of more limited fields of investigation; partly because of the requirements of a precise and extended technical skill. If the specialties have been multiplied somewhat beyond the needs of the profession or the people, and if isolation of thought and shortcomings of practice have come of their too narrow cultivation, these are errors which tend to correct themselves, and, despite its faults, specialism is a power in the medicine of our times both in promoting knowledge and in direct healing, the importance of which cannot be overestimated.

Clinical medicine, great as has been its advancement, began to lag in the progress. It fell behind surgery and for a time kept abreast of the minor specialties. The explanation was not far to seek. It was to be found in the complexity of the problems and in the greater number of unknown values, especially in causation. For a time this great branch of medicine waited for that new science which was to place it foremost among the specialties, to render possible the study of origins, to reveal the nature of infection, to set preventive medicine upon a sure foundation, to point the way to rational systems of therapeutics. The germ theory of disease ceased to be a working hypothesis and became a demonstration. The science of bacteriology came into existence. Youngest of the biologic sciences, it has accomplished more for medicine in three decades than all the rest had been able to accomplish in three centuries. Bacteriology has done away with speculation in medicine forever, and has for all time established experimental research as the final court of appeal.

It is of interest to note the position of the United

[1] The Oration on Medicine delivered at the Fiftieth Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

States in regard to modern medicine. It is no long time since our people were pushing westward over the wilderness and a famous poet and story-writer has accused us of being some centuries behind Europe in learning and manners. Railroads and the telegraph are great civilizers, and the Postal Union a wonderful teacher. There is no wilderness now except that beyond the seas and "a few centuries" is a figure of speech. In medicine the world's knowledge is ours. The latest work of investigators in every field of research and in every country is quickly before us and we give something in return. Laveran discovered for us the malarial parasite, and Marchiafava, Golgi, and others of the Italian school elaborated his observations; but an American, the late Professor J. K. Mitchell, had anticipated the discovery, being "the first to approach in a scientific spirit the nature of infective disease and particularly in malarial fever"; and Laveran's observations were early confirmed on this side of the Atlantic by Councilman, Osler, Thayer, and others. Roux and Behring gave to the world the treatment of diphtheria by antitoxin-serum, but the uncertainties concerning its efficacy were settled by Welsh's analysis of the statistics and the two collective investigations of the American Pediatric Society. Ernest Brand devised the method of treating enteric fever by systematic cold bathing and showed that by it the mortality is cut in half, but it remained for American practitioners to demonstrate that the plan is not only feasible in hospitals but also in private practice. Macewen and Horsley showed that cerebral tumors could not only be definitely localized, but also that they could be successfully removed, but cranial surgery was carried to its full development and a perfect technic laid down by Keen. Here and there we have given more than we have received. We recall the contributions to neurology and especially the successful treatment of neurasthenia and hysteria by Mitchell, the second in the line of an illustrious medical family, and speak of intubation in grateful memory of the gentle O'Dwyer, and in surgery we are reminded that the New World has given something to the Old by the work of Senn, Murphy, Richardson, McBurney, my colleague Deaver, and by that in earlier times of the clear-minded Grosses, father and son, the brothers Atlee, and the heroic McDowell. The instances of accord, response, coendeavor between the workers in medicine on the opposite shores of the Atlantic could be indefinitely multiplied.

It is clear then not only that medicine has kept pace with the progress of the times, nay more, that it has made advances even more wonderful than many other departments of thought, but also that in America the position of the profession compares favorably with that of any other country. Medicine with us is to-day one with the medicine of the world. Yet it is little more than 100 years since the country was without a medical profession in the sense in which the term is now used and was then used in the Old World.

It must be admitted that the rapid strides with which the medicine of the younger country has overtaken, and is now keeping pace with the medicine of the world, were largely due to the facilities of intercommunication that constitute one of the peculiarities of modern life. Knowledge travels far and fast. It has the wings of the light. It must be also conceded that such progress has been aided and accentuated in a remarkable manner by the master-spirits who, from time to time appearing upon the scene, seem to be charged with an especial mission, and whose presence marks eras in the course of human events. Easily, and by far the greatest of these, *primus inter pares*, is Rush. Others among his contemporaries I have already referred to. Nor do I intend to enumerate a complete list. Permit me to name one here and there, sometimes a group, as fine examples of medical men who, to say the least, are not commonplace. It is easy for one who has read our medical history to recall John Morgan, Redman, Hosack, Drake (who wrote the "Diseases of the Mississippi Valley"), that coterie of Louis' pupils, including Shattuck, Oliver Wendell Holmes, and Gerhard, who brought back from France physical diagnosis, the distinctions among the fevers, and reasonable methods of clinical work; Jackson and Morton, and the controversies concerning ether; the group of men who, representing others, it is true, really effected the organization of the American Medical Association, whose officers were Knight, Bell, Delafield, Arnold, Stillé, Jones, of New Orleans, is to be mentioned among those whose writings have powerfully influenced the trend of medical thought in the United States, and Flint, and Otis, and Woodward, to whose industry and ability we owe the "Medical and Surgical History of the War of the Rebellion;" and Billings and Fletcher, who have given to the medical world the "Index Catalogue of the Library of the Surgeon-General's Office of the United States Army," and that unique and most useful of current medical publications, the *Index Medicus*. I mention with that emotion with which we speak of a companion newly passed away, John B Hamilton, of whose skill as an organizer this Association has had abundant proof; and Pepper, a life of matchless energy and devotion to the widest human interests, whose rare gifts as a physician, abilities as a teacher, civic pride, and high patriotism will place him, when the dispassionate

history of our times comes to be written, among the great Americans and in the foremost rank of the citizens of that commonwealth which reverently claims Franklin and Rush as her own.

The tendency which distinguishes American medicine is essentially opposed to isolation, to individualism. It exerts itself in the direction of a higher, more complete and more specialized organization of the profession. It is this tendency that has made the general fund of knowledge accessible to all members of the profession who care to share in it; that has given to the independent worker in whatever department an uplifting sense of companionship, of community of interest, of sympathy in a common cause. It is this that has brought into the life of the toiling practitioner in the monotony of his everyday duties and cares a saving consciousness of personal dignity and power.

MEDICAL ASPECTS OF CRIME.[1]

BY DANIEL R. BROWER, M.D.,
OF CHICAGO.

THE limitation and treatment of crime is one of the great questions of the day. The closing hours of the Nineteenth Century are full of wonders; the progress in medicine, in literature, and in arts has been marvelous. Medicine and surgery have made rapid strides. The insane, the feeble-minded, the deaf, dumb and blind have received in these later years treatment that is scientific and successful. The care of the criminal is the one great question that baffles society, and difficulties have arisen from the fact that the medical aspects of crime have not been sufficiently considered. Criminology of to-day is much in the same condition that psychiatry was when Pinel and Tuke appeared and wrought their memorable reforms, substituting patience and scientific treatment for brutality and chains. This transformation in the care of the insane has been brought about by the medical profession, and it is our duty to-day with equal zeal and earnestness to consider this question of criminality, find out its etiology and provide means for its cure. The pioneers in criminal anthropology have established the fact that the habitual criminal is an abnormal man, the abnormality manifesting itself, first, physically, in the criminal physiognomy, in stigmata of degeneration, in anomalies of the muscular, sensory, respiratory, and circulatory systems; and, second, psychically, in moral insensibility, lack of forethought, low grade of intelligence, vanity and egoism, and emotional instability.

In approaching the study of this subject one is surprised by the rapid increase in crime beyond the ordinary increase in population. The census reports of our own country from 1850 up to and including 1890 represent the prisoners that were incarcerated, and it has been estimated that only about one-third of them are thus accounted for. The number of criminals in 1890 in the United States was about one-quarter of a million. The cost of their maintenance, arrest, and trial has been estimated at about $59,000,000. The statistics of the State of Pennsylvania confirm our national statistics. The same is more emphatically true in New York City. The population of that city has increased in the last ten years about 33⅓ per cent., while crime has increased more than 50 per cent.

The two great etiological factors in crime are criminal parentage and environment. The effects of these two agencies are strikingly illustrated in the history of the Jurke family, as related by Dugdale. Another of these remarkable exhibits is the tribe of Ben Ishmael, studied by McCullock. Professor Pellman, of Bonn University, has discovered and identified the descendants to the number of 709 of Frau Ada Jurke, a notorious drunkard, who was born in 1740, and died in 1810. Of these, 7 have been convicted of murder, 76 of other crimes, 144 were professional beggars, 61 lived on charity, and 181 were prostitutes. This family has cost the German Government for maintenance, cost of courts, almshouses, and prisons, one and a quarter millions of dollars.

An important factor in the cause of crime is intemperance. Fully fifty per cent. of the criminals arrested in Chicago are inebriates, and the police reports of New York show about the same proportion. Ferri has shown beyond question that in France crimes increase and decrease with the more or less abundant vintage, and we may safely attribute at least some of the increase of criminality and pauperism in the United States to the increase of intemperance, and it may be estimated that alcoholics are the direct or indirect cause of probably seventy-five per cent. of all crimes committed.

The constant and rapid increase of the urban population is another etiologic factor. The recent growth of cities is one of the phenomena of our social system. When our government was established a century ago, its first census showed only about 3.3 per cent. of the inhabitants of the country living in cities of 8000 and over. The census of 1890 shows such an increase that 27.6 per cent. of our population is urban.

The criminal laws and their unreasonable execution are another factor in the causation of crime. The code of to-day is largely the Roman code. In ancient Rome it did well because the death penalty

[1] Abstract of the Address on State Medicine delivered at the Fiftieth Meeting of the American Medical Association, held at Columbus, Ohio, June 6–9, 1899.

was common. The Coliseum had to be furnished with material for the amusement of the citizens, and "To the lions!" was a common sentence. And then Rome had her Tarpeian Rock from which the defectives could be hurled, and thus disposed of before the State could be troubled by their presence. To-day, with the death penalty rarely enforced, and with no such cutting off of the supply of criminal material, the law contributes to its increase rather than to its diminution. One of the absurdities of the law is the frequent conviction of the same criminal, which is not only expensive, but unprofitable. The case of Jane Cakebread of London, with her 269 convictions, is but an exaggeration of daily occurrences in our courts.

Our jails are schools of crime. The delay of the law gives children, sometimes arrested for trivial offenses, weeks or months of tutelage under old and often incorrigible masters in crime, even before their guilt or innocence is established, and after conviction further instruction in the same arts, so that when they leave, after a brief period of restraint, they are experts and will do much damage to person or property before they are again sent up for further instruction.

Then, again, laws are defective because they are directed against the crime and not the criminal, overlooking the important fact that the crime is an accident, and the criminal may be the product of a long line of etiological factors demanding for his cure, not punishment, but reformation. The habitual criminal, who constitutes the great bulk of the class, is a biological study, and his anatomic, physiologic, and psychologic nature demands most careful investigation in order that physicians may determine the ways and means to settle the various and vast questions to which he gives rise.

The brain weight of the criminal does not differ materially from that of the non-criminal. The potentiality of the brain does not depend so much upon its size and weight as upon its structure. The brain of Gambetta was very small but very elaborately convoluted, so that it doubtless contained more and better neurons than that of the average person, and one of the heaviest brains on record is that of a bricklayer who could neither read nor write. Flesch, out of fifty brains of criminals, did not find one without anomalies. From an examination of twenty-eight brains he found alterations in the meninges to the extent of fifty per cent. in the way of adhesions, various forms of meningitis, hemorrhage, atrophy, and atheroma; these observations have met with abundant confirmation. Benedikt, one of the most thorough and conscientious workers in this field of criminal pathology, found in an examination of nineteen brains of criminals, a confluence of fissures. Another anomaly noted by this observer is that the frontal lobe is sometimes divided into four convolutions instead of three, which he considers an evidence of reversion to the carnivorous type. He has found other anomalies in brain-structure in criminals. The feet of the criminal frequently show a tendency to revert to the flatfoot of the lower races, and this is usually associated with a low instep. The thyroid glands of the inmates of the Elmira and Pontiac reformatories have been examined by Talbot, who gives the author the following figures:

	Examined.	Normal.	Excessive.	Deficient.
Elmira.....	1045	106	909	36
Pontiac.....	465	145	183	137

Bono, in studying the eyesight of criminals, found sixty per cent. of 221 young criminals color-blind. Biliakow, who made similar observations on 100 murderers, found fifty per cent. of them color-blind. Tactile, temperature, and pain sense are rarely normal in criminals. They are usually much diminished, especially pain sense. Anomalies of patellar tendon reflex are common; they are either exaggerated or very frequently absent.

In fifty autopsies Flesch found twenty per cent. which showed affections of the heart so grave as to be the cause of death. On calculating accidental affections of the pericardium and endocardium the rate was fifty per cent. In this respect the criminal resembles the insane. Many of the manifestations of insanity are due to cardiac vascular disturbances, and this might reasonably be expected when it is remembered that the blood-supply of the brain is much more extensive than that of any other organ not concerned in blood-making or blood-purification.

On the psychical side of the criminal's character we find moral insensibility, a lack of forethought, a low grade of intelligence, vanity, egoism, and emotional instability.

The next important aspect of this question is the treatment, which should be based on etiology to be scientific, and as criminal parentage and environment are the two great causal factors, so the treatment should be directed against them. First, the propagation of crime should be stopped. It should be made impossible for there to be any more Jukes, Ben Ishmael, or Jurkes families, and to do this marriage should be regulated. There should be no possibility under the law for these people to marry and propagate their kind.

The operation proposed by Dr. Ochsner, which consists in a resection of the vas deferens, does not mutilate the person. It does not destroy his sexual power, but it does prevent propagation, and it is an

operation attended by very little risk to life. In the speaker's judgment it may be made a most useful agent in preventing an increase in criminals. Castration has been proposed by some, but the operation is vastly more dangerous. It is a great mutilation, destroys sexual power, and for these reasons is by no means as useful an operation as the one proposed by Ochsner.

The children of these degenerates should be taken in charge by the courts and placed at the very earliest possible age, certainly not later than seven years, in a favorable environment, and by this means the great bulk of them might be made useful citizens. Alcoholism is a very important and difficult etiological factor to control. The saloon is such a powerful factor in our political system that it seems to be impossible to have legislators enact laws that will regulate properly this great traffic. The way to accomplish positive results is for physicians to spread information among the people as to the baneful influence of intemperance, and so educate the old and the young as to the powerful influence of this great factor in politics, so that it may be neutralized. Legislation is needed for inebriates; authority to place them in prolonged confinement, during which they may undergo such treatment as may be necessary for their cure. Legislation is certainly needed to diminish the traffic in alcoholics, and to improve the quality of the liquor furnished. But the best way out of it is not by prohibition at this time surely, but it may be by a high-license system. There should be some remedy provided against the constant increase in urban population. Some method should be provided for the restoration of the equilibrium; some way by which the unproductive citizen may be transported to the country and made productive.

The last etiological factor, the laws and the unreasonable manner of their execution, demands such changes that those who are concerned in the sentencing of criminals should know something about their biological condition, and surely the ordinary juror cannot possibly possess this knowledge. All sentences should be indeterminate; the criminal should be sent to a prison or reformatory, not for any specific time, but until he is reformed or cured, precisely as a patient is sent to a hospital. A person who has committed his first offense should not be permitted to associate with hardened criminals. Trials should be speedy and prompt. The pardoning power should be taken out of the hands of governors of States, and placed under the control of a board of pardons, whose members shall be skilled in criminal anthropology. For criminal minor children there should be reform schools, where, through a protracted period, these children should be educated by manual training, and taught some useful occupation that may be to them the means of earning an honorable livelihood, and when the time comes for their discharge, they should be furnished with means by which they may establish themselves in the occupation for which they have been trained. This is not an untried proposition, but is to-day a practice in Russia. There should be reformatories for the older criminals who are capable of reformation, and these also should be taught not only the rudiments of an English education, but useful arts, and their confinement should last until they are able to withstand temptation and earn an honest living, and, when released from the care of the reformatory, they, too, should be provided with a reasonable capital with which to make a start in life. And, lastly, for those who are incapable of reformation, there should be penitentiaries for their lifelong incarceration, and these should be made as near self-sustaining as possible by having the prisoners employed in useful occupations.

SANITARY LESSONS OF THE WAR.[1]

By GEORGE M. STERNBERG, M.D., LL.D.,
SURGEON-GENERAL, UNITED STATES ARMY.

As compared with the Civil War and with other great wars during the present century the mortality from wounds and disease among our troops during the war with Spain has been low. Our wounded have, to a large extent, had the advantage of prompt treatment with antiseptic dressings and a very considerable proportion of those who were not killed outright have recovered without any mutilating operation or septic complication. The mortality from disease has also been comparatively low, but unfortunately during the first months of the war that scourge of new levies of troops, typhoid fever, prevailed in many of our camps and claimed numerous victims. It is well known to sanitarians and military surgeons that, as a general rule, more soldiers succumb to disease than are killed by the bullets of the enemy, and our recent war has not been an exception in this regard. The total number of deaths reported in our enlarged army, including regulars and volunteers, from May 1, 1898, to April 30, 1899, is 6406. Of these 5438 died of disease and 968 were killed in battle or died of wounds, injuries or accident. During the Civil War the number of deaths from disease was 186,216.[2] The number who were killed in battle or died of wounds was 93,969, or about one-

[1] Abstract of a paper read before the Section on State Medicine at the Fiftieth Meeting of the American Medical Association, Columbus, Ohio, June 6–9, 1899.

[2] In addition to this 24,184 deaths are recorded as from unknown causes, and probably most of these deaths were from disease.

half of the deaths from disease. The total deaths from disease in the Union armies from the commencement of the war to the 31st of December, 1862, was 34,327, and in the Confederate armies during the same period, 31,238.

The following table gives the monthly death-rates from disease in our armies from May 1, 1898, to April 30, 1899, and, for comparison, the rates for the same period during the first twelve months of the Civil War:

Comparison of Monthly Death-Rates (per 1000) from Disease.

	1861–1862.			1898–99.		
Months.	Mean Strength.	Number of Deaths.	Ratio per 1,000 of M. S.	Ratio per 1,000 of M. S.	Number of Deaths.	Mean Strength.
May	16,161	18	1.11	.26	42	163,726
June	66,950	55	.82	.44	90	202,526
July	71,125	106	1.49	1 72	451	262,613
August	112,359	242	2.15	5.21	1,400	268,507
September	165,126	365	2.21	5.89	1,541	261,824
October	256,884	725	2.82	3.17	809	255,000
November	301,848	1,145	3.79	1.51	365	242,000
December	343,184	1,471	4.29	.84	201	240,000
January	352,760	1,598	4.52	.85	180	211,000
February	327,734	1,346	4.11	.87	156	180,000
March	328,878	1,575	4.79	.90	123	136,000
April	410,416	1,881	4.58	.71	80	113,000
Annual	229,452	10,522	45.86	25.73	5,438	211,350

In comparing the death-rates from disease during the year of the Spanish-American War, May 1, 1898, to April 30, 1899, and the first year of the Civil War, May 1, 1861, to April 30, 1862, note should be taken in the first place that the mean strength in May, 1861, was only 16,161 as compared with 163,726 men in service in May, 1898. The mustering in of volunteer troops progressed more slowly in 1861 than during the recent war, so that it was not until September and October, 1861, that the mean strength assumed proportions equal to that of the months of the Spanish War. Although the number present in the camps of 1861–62 after October, 1861, was largely in excess of those aggregated during the past year, the average annual strength during both wars did not differ greatly. Nevertheless the deaths from disease in 1861–62 numbered 10,522, while in 1898–99 they amounted only to 5,438. The death-rate per thousand of strength mounted gradually month by month in 1861–62, and indeed it did not reach its acme until February, 1863, when the rate of 6.39 was reached. In 1898, on the other hand, the acme, 5.89, was reached suddenly in September, but owing to the sanitary measures adopted the fall during October and November was as rapid as had been the rise.

The same gradual rise is seen in the mortality statistics of typhoid fever during the Civil War. The highest death-rate, 2.81, was not reached until May, 1862, the thirteenth month of the aggregation of the troops, when 1092 men died of this disease, and the fall of the rates was as gradual as the rise. On the other hand, the rise in 1898 was sudden, the maximum rate, 3.57, being reached in September, when 933 men died of this disease; but the fall during the months of October and November was as notable as the rise. This sudden suppression of the disease cannot be attributed to an exhaustion of the susceptibility of the troops to attack from this fever, as they only suffered at the rate of 12.37 per thousand of strength during the twelve months, whereas the troops of the Civil War suffered at the rate of 19.71 per thousand. It can be attributed only to the active preventive measures that were instituted, and especially to moving the troops to fresh camp sites and to the greater care exercised in the disposal of excreta.

The average mortality from typhoid fever in our regular army since the Civil War has been: For the first decade (1868–1877) 95 per 100,000 of mean strength (.95 per 1000); for the second decade (1878–1887) 108 per 100,000; for the third decade (1888–1897) 55 per 100,000. This latter rate compares favorably with that of many of our principal cities. For example, it is exceeded by the typhoid death-rate in the City of Washington, which is 78.1 per 100,000 (average of 10 years, 1888–1897); by that of the City of Chicago, which is 64.4 per 100,000; by that of Pittsburgh, which is 88 per 100,000. These figures, however, do not show the entire mortality in the cities mentioned as a result of typhoid fever, for without doubt many of the deaths ascribed to "malarial fevers" were in fact due to typhoid infection. Thus in the City of Washington the deaths reported from typhoid and typho-malarial fever (average of 10 years) numbered 78.1 per 100,000 of the population, while 23.4 per 100,000 are recorded as due to malarial fever. In Baltimore the mortality, as recorded, from typhoid fever is 41.5 and from "typho-malarial and other malarial fevers" 18.3 per 100,000. In St. Louis the figures are: Typhoid fever 35.7, typho-malarial and other malarial fevers, 49 per 100,000; in New Orleans typhoid fever 26.1, typho-malarial and other malarial fevers, 107.2 per 100,000.

It will be seen that sanitary conditions at our military posts in time of peace, as judged by the typhoid death-rate, compare favorably with those in our large cities in various parts of the country. As a matter of fact great attention has been given to post sanitation for many years past, and through the persistent

efforts of officers of the Medical Department great improvements have been made, especially during the past ten years. The result is shown in a reduction of the typhoid mortality from 108 per 100,000 in the ten years ending in 1887 to 55 per 100,000 in the decade ending in 1897. Hygiene is made one of the principal subjects of examination for candidates desiring appointment in the Medical Corps of the Army, and at subsequent examinations for promotion to the grade of Captain and Major is given a most prominent place. It is also the most prominent subject in the course of instruction at the Army Medical School, where the student-officers spend five hours daily for a period of five months in practical laboratory work, relating for the most part to the cause and prevention of infectious diseases. It should be remembered, however, that the Army Medical School was not established until the year 1893, and consequently but a small proportion of the medical officers of the army have had the advantage of this course of instruction.

But the comparatively small number of medical officers of the regular army for duty in the large camps occupied by our volunteer troops at the outset of the war proved to be entirely inadequate to control the sanitary situation in these camps, and as a result of the conditions existing the mortality from typhoid fever in our armies during the year ending April 30, 1899, has been more than twenty-two times as great as it was in our regular army during the decade immediately preceding the war period. As compared with the first year of the Civil War, however, there is a decided improvement, the typhoid mortality for the first year of the Civil War having been 1971 per 100,000 of mean strength, and for the Spanish-American War 1237 per 100,000. Moreover, the vigorous sanitary measures enforced enabled our troops to quickly free themselves from the ravages of this infectious disease, and while the line of typhoid mortality continued to ascend during the first year of the Civil War and subsequently, it rapidly fell after the middle of September, last, and for the last six months of the period under consideration has been remarkably low. Indeed, in the history of large armies the record has never heretofore been equalled.

Typhoid fever in our camps has been to a large extent due to the neglect of well-known sanitary measures indicated by me in Circular No. 1, dated, Surgeon-General's Office, Washington, April 25, 1898; also to a very general failure upon the part of medical officers attached to regiments to recognize the disease in its milder forms and during its earlier stages. As a result of this the camps became infected, and the failure to use proper methods of disinfection, and the continued occupation of infected camps, has led to the development of veritable epidemics of typhoid fever in several of the camps occupied by our troops.

The principal lessons to be derived from our recent experience may be stated as follows:

A trained medical corps, hardly adequate for an army of 25,000 men, cannot control the sanitary situation when this army is quickly expanded to 250,000. Physicians and surgeons from civil life, however well qualified professionally, as a rule are not prepared to assume the responsibilities of medical officers charged with administrative duties and the sanitary supervision of camps. The proper performance of such duties cannot be expected from a physician without military training or experience, no matter how distinguished a position he may have held in civil life.

Courage and patriotism on the part of line officers and enlisted men cannot take the place of knowledge and experience. New levies of troops are, as a rule, ignorant of the first principles of camp sanitation, and reckless of the consequences of their neglect of prescribed sanitary regulations. Therefore, training and discipline are essential factors in the preservation of the health of soldiers in garrison or in the field.

The value of the aphorism "in time of peace prepare for war" has received additional support. This preparation should include a corps of trained medical officers larger than is absolutely necessary for the army on a peace basis, and systematic instruction in military medicine and hygiene for the medical officers of the National Guard, as well as for those of the regular army; also instruction of line officers in the elements of hygiene, and especially in camp sanitation. It should also include the establishment of camping-grounds in various parts of the country, having an ample supply of pure water, a proper system of sewers, etc. If our volunteers could have been assembled in such camps during the late war a saving in lives and money would have resulted which would without doubt have demonstrated the economy of such preparation for war in time of peace.

RESPIRATORY FAILURE OCCURRING BEFORE CIRCULATORY FAILURE IN BRAIN INJURY AND DISEASE, AND ITS CLINICAL BEARINGS.

By W. H. HUDSON, M.D.,
OF LA FAYETTE, ALABAMA.

In an article of mine, which has not yet been published, reporting a case of cerebellar cyst, which I located and successfully removed, I refer in a superficial way to the subject of this contribution. I

also discussed the subject more fully before the Alabama State Medical Association, at the meeting in Birmingham in 1898. I am impressed that the subject is of the highest importance and, from the little that is said and written about it, I think that perhaps many in the profession are not fully awake to the importance of this fact, either from the physiological bearing of the condition or its clinical significance. In 1890 I observed the continuance of circulation after breathing had ceased in a child which had a meningitis complicating pneumonia. In the early part of 1893 I observed the phenomenon which was present in a most striking manner in an infant a week old, whose cerebellum had been injured at birth; this infant was kept alive for twelve hours by artificial respiration.

The most striking instance of the importance of recognizing this condition that has come under my personal observation I will refer to later in giving a synopsis of the history of the case of cerebellar cyst. Before taking this up I will add here some of the most important cases which have appeared in the literature, and discuss briefly some of the most important contributions to this subject.

Leyden (*Virchow's Archivs*, Bd. xxxvii, 1866) was the first to record the changes in blood pressure by a series of experiments in which he raised the intracranial pressure by forcing air into the skull by a piston. He noted the slowing of the pulse, the deep stertorous respiration, the final arrest of respiration, and the final great rapidity of pulse. Hilton Fagge ("Principles and Practice of Medicine," pages 526 to 551, 1886) observes that some patients with cerebral tumor or abscess die from failure of respiration. In one case the respiration ceased thirty-five minutes before death; in another, a case of multiple cerebral abscess in the posterior and middle lobes, the breathing ceased ten minutes before death.

Professor Macewen of Glasgow, in his magnificent work, "Pyogenic Infective Diseases of the Brain and Spinal Cord," speaks of several cases of depression of the respiratory function with slowing of cardiac action. In his lectures delivered in San Francisco in 1896 he reported cases in which the pulse-rate was lowered to forty or even to twenty in the minute as the intracranial pressure increased. He also noted the occurrence of modified respiration resembling the Cheyne-Stokes type in cases of abscess of the cerebellar fossa, leading to death from pressure on the respiratory center, the pulse remaining quick and strong. In one case artificial respiration was carried on twenty-four hours, the pulse never flagging. Macewen has met with two cases in which the breathing was reestablished after hours of artificial respiration. In one case cited he opened and evacuated a cerebellar abscess while artificial respiration was being practised. In this case the relief of cerebellar pressure greatly relieved the general condition, and soon afterward the respiration became voluntary. This patient recovered temporarily but died later from cardiac failure, probably due to exhaustion, the restored breathing continuing perfect to the end of life. Macewen observed this phenomenon in a case of apoplexy, and also in a very interesting case in which the respiratory apparatus was destroyed by a crushing force, the heart continuing to beat, producing at each impulse a cracking of the broken ribs.

Mr. Victor Horsley, in a very valuable contribution to this subject, published in the *Quarterly Medical Journal*, July, 1894, calls attention to the fact that patients suffering from cerebral hemorrhages, tumors, depressed fractures of the skull, sudden and violent concussion, especially when applied in the occipital region, die from respiratory and not cardiac failure. Horsley, Spencer, and Leonard Hill confirm these observations. Horsley's clinical studies show that in cases of cerebral tumors, hemorrhages, and inflammatory foci death is apt to occur suddenly from arrest of the respiration. Indeed, respiratory arrest appears to be the common cause of death in all cases of pathological intracranial tension, especially when the disease is extremely chronic. He offers the suggestion that in cases in which patients fall apparently dead after sudden blows on the head, they do not die, as is commonly believed, from cardiac failure, but from the arrest of the respiratory function. In such cases he thinks that it might be possible to preserve life by artificial respiration. Direct experiments prove also that bullet-wounds of the cerebral hemispheres, severe injuries, etc., produce arrest of the breathing and when the respiratory center is not destroyed by the pressure of hemorrhage, or by direct injury, life may be preserved by carrying on the respiration artificially.

Sir Dyce Duckworth, in a notable paper read at the International Medical Congress, Moscow, August, 1897, calls attention to this phenomenon and thinks that the condition has not been fully recognized. In this paper he gives a record of four cases, which occurred under the care of Butlin, himself, Brunton, and Walsham. The salient points in these cases were diseases of the cerebellum, or posterior cerebral lobes, infective in nature with attending signs of increased intracranial tension. In three of his cases the temperature was normal or subnormal, in one instance rising from 96.8° to 102° F. in sixteen hours. It is possible that the inhibition of

the respiratory center may bear some relation to this absence of pyrexia, in a condition in which infection and inflammation play the important rôle. In each of these cases there was respiratory failure before heart failure, and though artificial respiration successfully prolonged life for a short time, in no case was death averted. It is the opinion of Duckworth that the respiratory center is the first to give way and is the most vulnerable of all the great nerve centers, being the first to resent undue intracranial pressure.

Without going further into the consideration of reports of these cases I give here a short history of a case which came under my care:

Julie R., a negro girl, seven years old, was placed under my care for treatment in the summer of 1896. The immediate family history was good; she was a well-nourished, healthy-looking girl, rather large for her age. Her head measured twenty-two inches in circumference, her eyes were prominent and protruding, with a lateral nystagmus; the movement of the eyeballs was restricted in all directions. The abducens of the right eye was more defective than the other ocular muscles. To close the eyelids required an effort, and they could be kept closed for a short time only. The pupils were widely dilated and did not react to light; there was double optic neuritis, with small retinal hemorrhages in one eye. She could barely discern light and only a short time later became totally blind. There was paresis of the right facial nerve. Hearing was good in both ears; taste and smell were normal; pulse was sixty-five beats to the minute; the respiration was lowered.

Her appetite remained good and at times was voracious; there was pain of moderate severity located in the back of the head and right side of the neck. The muscles of the neck were stiffened and the head was slightly retracted. There was severe pain when an attempt was made to straighten the neck. There was no pain on percussion, but firm pressure over the cerebellar fossa elicited pain. The grasp of the left hand was much weaker than that of the right. Both knee-jerks were absent. When lying down coordination in the arms and legs was good. In attempting to walk her gait was staggering and uncertain, and she would usually fall after walking a few feet. In walking there was a tendency to turn first to the left, later, as intracranial pressure increased, to the right. Percussion of the head indicated much ventricular distention. There was vertigo and vomiting, and also undoubted signs of paresis of the trunk. Toward the last, before the operation was performed, there was rapid failure of the mind, and a loss of sphincteric control.

From the foregoing symptoms a diagnosis of cerebellar disease was made, which was located with reasonable certainty in the right cerebellar lobe. I advised an operation, expecting to find a tumor, perhaps of tuberculous nature, as the child had been living in the house with persons affected with pulmonary tuberculosis. Her condition, however, did not suggest tubercular disease and I considered a sarcoma quite as probable.

I operated in June, 1896. It was evident that the intracranial pressure was very much increased and I apprehended the danger that might result therefrom during the operation, so I requested one of my assistants to hold himself in readiness to perform artificial respiration on the first indication of respiratory failure. I furthermore notified him that I would finish operating under artificial respiration if it should be necessary. With the most approved surgical precautions the skull was opened. The bone was not thicker than ordinary blotting-paper. The dura mater bulged into the opening through the bone, was very tense, showing the most marked intracranial pressure. When the dura was incised the brain was forced through the incision, and it at once became apparent that the excision of the protruding mass of brain would be necessary before a satisfactory examination could be made. After the first portion of the brain was cut away, more brain was forced out, which was also excised. On account of the pressure, perhaps, the brain presented an abnormal appearance, which I mistook for a tuberculous foci, and on this account stopped the operation without exploring the brain in any direction. (A month later, a second operation was performed, a large cyst opened and evacuated, with recovery almost complete, with the exception of blindness, which has remained stationary to the present time, May, 1899.)

The incision of the dura mater was closed by sutures as was the scalp wound. There had been very little bleeding during the operation and it was thought that the patient had stood it remarkably well. Just as the bandaging of the head was being finished respiration ceased, though the pulse remained good. I at once proceeded to practise artificial respiration, which had to be carried on fully thirty minutes, as estimated by the assistants present. At the end of this time there was a weak effort at breathing, which gradually grew stronger and in a few moments was established normally. The pulse at no time showed any sign of failure, when respiration failed, during the practise of artificial respiration, or during the establishment of normal respiration. I can but be certain that the life of this patient was preserved by the knowledge of the fact that this phenomenon may be looked for as a condition attending such a process existing in the brain, and that it is possible by artificial respiration to carry on this function until the breathing-center reasserts itself.

The sole purpose of this paper is to call the atten-

tion of physicians and surgeons to the fact herein brought forth; and as a summary of the study I would suggest: That in cases of intracranial pressure death is generally produced by failure of respiration and not of circulation; that in many cases of severe injury to the brain, such as gunshot wounds, blows, etc., the respiratory center may be inhibited and we may be able to save life by keeping up artificial respiration until hemorrhage may be stopped and the wound otherwise attended to; that the pouring of hot sterile salt solution on the exposed brain and on the patient's head, as suggested by Horsley, adds somewhat to the reestablishment of the arrested brain functions; that in operations upon the brain, especially those involving the posterior cerebral lobes and cerebellum, whether or not there are signs of increased intracranial pressure, we should be ready to practise artificial respiration even to the extent of carrying it on through the entire operative procedure.

As artificial respiration is a positive necessity, in the safe management of the cases here suggested, I would consider it of especial importance that we be able to perform it in the most effectual manner, and, therefore, the Fell-O'Dwyer apparatus should be at hand with an expert to use it, as the most effectual method we have at present, for the practise of artificial respiration, bearing in mind that it may be necessary to use external force to expel the air from the lungs.

THE RESISTANCE OF BACTERIA TO COLD.[1]

By MAZYCK P. RAVENEL, M.D.,
OF PHILADELPHIA;
BACTERIOLOGIST TO THE STATE LIVE STOCK SANITARY BOARD OF PENNSYLVANIA; INSTRUCTOR IN BACTERIOLOGY, VETERINARY DEPARTMENT, UNIVERSITY OF PENNSYLVANIA.

It is the object of this communication to put on record the results of some experiments made with liquid air in March and April, 1898, to determine what effect such intense cold would have on bacteria. The recent use of liquefied air in surgery, and the claim that it is a germicide give the subject a direct practical interest, and have led me to make this report in a much more incomplete state than I had expected and hoped. The difficulty in obtaining the air for experimental purposes is my only reason for not having carried my experiments further and it is my purpose to do so when possible. I am greatly indebted to Professor George F. Barker of the University of Pennsylvania for the interest shown by him in the subject, and for his kindness in supplying me with the liquid air used.

The temperature of liquid air is 312° F. below zero, and when one sees the effect it has on inanimate objects, and the rapidity with which it destroys tissues, one finds it hard to believe that vegetable life can withstand it even for a few moments, yet such is the case. My experiments were tried with anthrax spores dried on silk threads, with recently grown cultures of diphtheria on blood-serum, and with agar cultures of the typhoid-fever bacillus, and the bacillus prodigiosus. In the case of the three latter organisms a suspension of the growth was made in sterile water, silk threads impregnated with this suspension, and the threads then immersed in the liquid air without drying. At intervals a thread was removed, transferred to bouillon, and placed in the incubator. In this way anthrax spores were exposed to the action of the liquid air for one, five, ten, fifteen, and thirty minutes, and three hours; the diphtheria bacillus for fifteen and thirty minutes; the typhoid bacillus for twenty, forty, and sixty minutes; the prodigiosus for thirty and sixty minutes. In no case were the bacteria killed, nor could any inhibition even be detected, all cultures growing as rapidly and as vigorously as the controls.

When these experiments were tried it was my belief that bacteria had never before been subjected to such low temperatures, but in this I proved mistaken. I have, however, been able to find but one other such experiment recorded, by Pictet of Geneva, who subjected a number of bacteria, the names of which are not given, to the action of liquid air. He states that they afterward developed in the same way as controls kept at ordinary temperature. He could not detect any appreciable difference between the two. He does not give the length of time the cold was allowed to act. Previous to this Pictet and Yung had subjected various cultures to low temperatures. After an exposure to cold of 70° C. below zero, continued for 108 hours, and 130° C. below zero for twenty hours, they found that anthrax spores retained life and virulence intact, but virulent anthrax blood became innocuous. The bacillus of symptomatic anthrax retained its virulence also under the same treatment. Bovine vaccine lymph was rendered sterile. Brewer's yeast was not killed, but lost to a great extent its power of producing fermentation. Similar results were obtained by Frankland and Templeman, who found that anthax spores were practically unaffected by repeated freezings, the process having been repeated twenty-nine times, and the temperature being reduced on each occasion to 20° C. below zero, while the ice formed was not melted until twenty-four hours had passed. On the other hand sporeless anthrax was almost entirely destroyed by one freezing, and completely destroyed by two freezings. In the first experiment the freezings and

[1] From the Laboratory of the State Live Stock Sanitary Board. Read before the Philadelphia Pathological Society, May 11, 1899.

thawings extended over a period of three months, while in the latter only five days were occupied.

That what may be considered moderate degrees of cold can not be relied on for the destruction of infection has been painfully demonstrated by the epidemic of typhoid fever at Plymouth, Pa., in 1885, when the stools remained frozen for some time; and by the outbreak of yellow fever on the United States Corvette "Plymouth" in 1879, after having been frozen out at Boston, the ship piled up with ice, and the temperature falling to 28° F.

The former of these experiences prepares us for the statement of Prudden concerning the resistance of the bacillus of typhoid fever to cold. Prudden kept this organism in artificial ice at a temperature of 14° to 30° F. for 103 days, without entirely destroying its vitality. At the end of eleven days one million germs per c.c. were found; after seventy-seven days seventy-two thousand, and at the end of 103 days seven thousand per c.c. still remained. This bacillus has unusual powers of resistance to cold, and it is said by Seitz that multiplication begins to take place at 4° C. Certain water bacteria are said to be able to vegetate as low as zero centigrade, but among pathogenic organisms, the bacillus of typhoid fever is unique in its power to grow at low temperatures. Alternate freezing and thawing is rapidly fatal to the typhoid bacillus, according to Prudden. Beginning with 40,000 per c.c. he reduced the number to ninety in twenty-four hours, three thawings having intervened, and in three days the bacteria were entirely destroyed.

As would be expected, the power of resistance to cold varies with the species, and also in the same species to some extent. Prudden found that the staphylococcus aureus from an old and half-dried culture was destroyed after seven days of freezing, while that taken from a fresh agar culture, and present in uncountable numbers at the beginning of the experiment, still showed 50,000 per c.c. after sixty-six days of freezing.

Of twelve species of bacteria kept in a freezing mixture in gelatin culture by Heyroth for seven days, only three failed to grow; and of eighteen species kept for ten days only one failed to grow, the temperature being presumably about 20 ° C. below zero. These four were the organisms of swine fever, swine plague, rabbit septicemia and sporeless anthrax.

In conclusion I think it may be safely said that, so far at least as our present knowledge of it permits of its application, cold cannot be relied on as a disinfectant. In spite of the extravagant claims made for liquid air as a germicide, it is practically innocuous in this respect.

MEDICAL PROGRESS.

Paget's Disease of Thirteen-Years' Duration.—Masland and Babcock (*Proceed. of the Path. Soc. of Phila.*, April 1, 1899) showed a specimen of Paget's disease of the nipple taken from a white woman aged fifty-six years, who had been married but had never borne children. The interesting point about the trouble was that it had existed for thirteen years, and had not developed into carcinoma, although the nipple had been obliterated, and the greater part of the surface of the breast had been involved, being denuded of its superficial epithelium, and covered with a sero-purulent discharge. Microscopical examination showed that the mammary ducts were entirely obliterated, and to this fact the authors attributed the freedom from extension inward of the epithelial cells, as usually happens in Paget's disease after about two years. Aside from speculation as to its true nature, the chief interest in Paget's disease lies in its relation to carcinoma of the breast. It is not, however, a very frequent forerunner of this trouble, as investigation showed its occurrence only five times in 400 cases of mammary carcinoma.

Chloroform Water as a Preventive of Accidents after Chloroform Anesthesia.—Weber (*Bull. Gen. de Therap.*, April, 1899) says that the nausea after chloroformization may be avoided if the patient will take chloroform water for several weeks before undergoing operation, so as to accustom the system to it. His attention was called to this fact by the absence of nausea after operation in the case of two patients, who on account of digestive disturbances had taken chloroform water after each meal for several weeks. As the taste and smell of chloroform is repugnant to some persons, the following mixture is recommended:

℞ Aq. chloroform. . . . . ʒ vj
Spir. menth. pip. } aa . . . *m.* iv.
Spir. anis. }
Filter after twelve hours.

Successful Nerve Transplantation.—Peterson (*Amer. Jour. Med. Sci.*, April, 1899) reports a case in which a secondary resection of a little more than an inch of both the median and ulnar nerves was made and the gaps closed in with portions of the sciatic nerves of a young hound. The result was exceptionally good, as both sensation and motion returned to a large degree. The author also gives a resumé of all the published notes of similar cases. He was able to collect twenty of these, nineteen of the operations having been performed upon the median, ulnar or musculo-spiral, one upon the sciatic. The implanted nerves were in six cases obtained from recently amputated human limbs, in the others from the sciatics of dogs, rabbits, or kittens. In twelve of the twenty cases there was improvement in sensation or motion, or both. In no case was there a perfect restoration of muscular power in every muscle affected. The return of sensation was complete in four cases, and nearly complete in three others, but collateral sensation has to be considered as possibly explaining a part of the return

of normal feeling. Vicarious motions of other muscles must also be watched, as this may be the true explanation of a very early supposed restoration of the nerve action. On the whole, however, the author considers nerve transplantation as a legitimate surgical procedure.

Prevention of Urinary Infection.—DOWD (*Buffalo Med. Jour.*, May, 1899) insists upon the importance of asepsis in the urethra before the passage of instruments into the bladder. No matter how carefully the external parts have been cleansed and the instruments boiled, they will be covered with germs before they have gone an inch from the meatus, unless the urethra has been disinfected. Of the numerous syringes which have been devised for this purpose, Dowd prefers a six-ounce syringe with a long nozzle, and a cup-shaped shield with the concavity looking outward. There can be no soiling of the clothes or hands with this instrument, and the surgeon can readily estimate the resistance of the urethra and the capacity of the bladder. He prefers a solution of formaldehyd as a disinfectant. After the instrument has been used, the bladder is filled with an astringent antiseptic solution, which the patient is allowed to pass immediately afterward. The irritation of instrumentation will thus be avoided. By these simple measures infection will be almost certainly avoided.

Synovectomy or Resection in Tuberculosis of the Knee.—BEGOUIN (*Gaz. heb. de Med. et de Chir.*, April 2, 1899) had an excellent opportunity to compare the relative advantages of synovectomy and resection in tuberculosis of the knee of adults, when limited to the synovial membrane. Two patients, aged twenty and twenty-six years respectively, entered the hospital at about the same time. The man, aged twenty-six years, was treated by resection, and in three weeks his leg was solid in a good position, and he walked without fatigue. The young woman was treated by synovectomy, and obtained a joint which could be moved a little for a time after the operation, but which became constantly stiffer and a little more flexed, so that at the end of three months she could not walk far without fatigue, and the process of flexion of the leg on the thigh was still going on. Whatever may be the desirability of synovectomy in the upper extremity, in the knee-joint an absolute immobility is far better than a rough, painful joint. A slight shortening of the limb which follows resection, is after all no disadvantage, as when the knee is ankylosed, it is a convenience to have the limb 1 inch or 1½ inches shorter than the other, to secure its easy manipulation.

The Thermal Death-Point of Tubercle Bacilli. — SMITH (*Jour. of Experiment. Med.*, March, 1899) found in his experiments that tubercle bacilli suspended in distilled water, were killed by exposure to 60° C. (140° F.) for fifteen or twenty minutes. The larger number were killed by an exposure of five to ten minutes. Suspended in milk, some of them were able to resist this temperature for more than an hour. The explanation of this apparently contradictory statement is given by Smith, who found that many bacilli were caught in the pellicle which forms on the surface of scalding milk, and that they escaped the general temperature of the liquid in this manner. He suggests that this may be avoided, either by submerging entirely the bottles containing the milk, or by filling them completely. Otherwise it will be necessary to continue to use the higher temperature of 68° C. (154° F.) which is now generally employed.

THERAPEUTIC NOTES.

Simple Treatment of Ingrowing Nail.—KINSMAN (*Columbus Med. Jour.*, April 4, 1899) says that he does not remember an instance in which, by the following method, he has failed to cure an ingrowing nail: (1) Remove all pressure from the nail by cutting away a piece of the shoe. (2) Disinfect with hydrogen dioxid until no more "foam" appears. (3) Apply a drop of strong solution of cocain in the base of the ulcer. (4) Apply a drop of Monsell's solution to the ulcer, then cover loosely with gauze. Repeat this process every second day until the edge of the nail is released, by the retraction of the hypertrophied tissue. The patient suffers no pain from the application, and all pain has disappeared by the second day. The cure is effected in a week or two without inconveniencing or interfering with business.

Aseptic Vaccination. — POEPPELMANN (*Deut. med. Wochenschr.*, March 9, 1899) insists upon five requisites for a perfect vaccination. (1) An animal lymph which is free from bacteria; (2) instruments made sterile by boiling; (3) the sterilization of the skin, preferably by a brisk rub with alcohol. This rapidly evaporates and so does not interfere with the success of the vaccination. In fact, the removal of the surface epithelium and the hyperemia induced by the rubbing favors the "taking" of the lymph; (4) the prevention of post-vaccinal infection, which is best accomplished by covering the wound with a celluloid capsule made for the purpose; (5) rapidity of execution.

Irrigation of the Bowel in Fermental Diarrhea.—HUBBARD (*Arch. of Pediatrics*, April, 1899) says that the worst cases of fermental diarrhea present clinically the picture of a severe toxemia. The ideal treatment would be to flush out the alimentary canal from the mouth to the anus. When seen the offending matters have usually passed from the stomach, so that it is the large intestine only which is accessible to irrigation. A large soft rubber catheter and a fountain-syringe are all that is needed, and water or saline solution, or some mild antiseptic, such as a weak solution of sulphonaphthol may be used for irrigation. The temperature of the fluid should be about 85° to 90° F., and the syringe should be held three feet above the body. The irrigation not only lowers the temperature, but quiets the restless babies, some of them even going to sleep during the process. The pulse is improved. No contraindications are mentioned as no bad results were seen to follow the irrigations in any instance.

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SATURDAY, JUNE 10, 1899.

THE COLUMBUS MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

IN the midst of record-breaking temperature there has been held, during the week, a most enthusiastic meeting of the American Medical Association in Ohio's fair capital city.

Nearly 3000 members registered, and the attendance from even distant parts of the country shows that the Association is growing in popularity and becoming more and more, with each succeeding year, what it should be—the actual representative body of the American medical profession. The reception accorded various portions of the president's address well shows the temper of the profession in this country with regard to certain practical questions, which, with most judicious discernment, he suggested for action on the part of the Association.

There was but one opinion regarding the adoption of measures to prevent the spread of syphilis in the United States. A hearty reception was given the proposal that State and Federal aid should be invoked in the active warfare it is expected henceforth to wage against tuberculosis, and the suggestion looking toward the erection of sanatoria for the treatment of the disease was heartily commended.

The proposal to have a single meeting-place for the Association, Washington to be designated as the most desirable situation, was received with applause at the meeting, yet the tone of private conversation afterward, among the members, showed that the suggestion meets with little favor. The proposal to make obligatory the printing in the *Journal* of the Association of all papers read at the annual meeting did not seem to have the sympathy of the audience.

In the Session on Surgery it was very noticeable that even the most conservative of surgeons no longer urges that there is any adequate medical treatment for appendicitis. The division of opinion now appears to be whether operation is indicated when symptoms of general peritonitis are present. The older men seemed to think that in this lies the patient's only hope, and that operation should be performed even in the face of almost certain failure. The younger men, on the other hand, considered general peritonitis a contraindication to operation and some advised, as the result of some successes, medical treatment with rectal feeding. In gall-stone surgery it was evident that immediate operation as soon as the diagnosis is assured is what the near future holds. It will no longer be counselled to wait in hope that Nature will dispose of the offending concrement, but just as in appendicitis true conservatism will dictate its removal and positive avoidance of the dangers connected with the let alone treatment.

The discussion in the Section on Medicine of cerebrospinal meningitis proved most interesting. It is clear that Professor Osler did well in selecting "Cerebrospinal Meningitis in America" as the text for the Cavendish lecture, to be delivered next week in London. Physicians in this country have had a most varied and instructive experience with the disease. It has occurred seemingly sporadically among us under the most varied circumstances, and the results of scientific clinical observation from various parts of the country show that we have in America a great deal to add to the subject in the ordinary text-book.

THE EFFECT OF ALTITUDE ON THE BLOOD.

THIS very interesting subject, the effect of lowered barometric pressure on the blood, has been attract-

ing attention during the past ten years. The discussion at the recent meeting of the American Climatological Association of Dr. Solly's paper on the subject shows that there is still much about it that is doubtful and deserving of further investigation. Blood counts made within twenty-four hours after an ascent to a height of even 2000 feet show seemingly an increase in the number of red blood-corpuscles present. This disappears upon the individual descending to the ordinary level. Animals kept in bell-jars from which the air has been exhausted to a certain degree, exhibit the same phenomenon. The amount of hemoglobin is not at first increased proportionately to the number of red cells but there is a gradual rise in its value, and also an increase in the specific gravity of the blood.

The subject deserves further investigation especially from the clinical side and this seems to be a proper time of the year to suggest it as large numbers of people go during the summer months to the mountains. A careful comparison of the state of their blood as made by their family physician at home and their physician at the summer resort would furnish important scientific data. Examinations of their blood made after their return and compared with its condition before their departure would be especially valuable. It is the subsequent condition as revealed at the expiration of several months that has not been studied as much as other aspects of the question. It is, too, the most practical side of the problem, because it will reveal how lasting any effect of altitude on the hematopoietic system may prove to be.

Meantime it is well to bear in mind certain objections that carry a good deal of weight against admitting that the increase of red blood-cells is real, *i.e.*, that there is an actual addition of a large number of red corpuscles to those already existing in the body. In severe anemia, especially in pernicious anemia, when, because of the destruction of red cells, there is a constant call for the manufacture of them in greater numbers there develops over such important parts of the hematopoietic system as the flat bones, a tenderness to pressure that is the index of the increased function of the red marrow. The spleen is also enlarged and there is tenderness in the splenic region. Such symptoms have not been noted after ascent to an altitude though that ascent is seemingly followed in twenty-four to forty-eight hours by an increase of one half to one million or even by more red cells in every cubic millimeter of the blood.

Moreover, after the descent to the lower level the blood count descends as rapidly as it had previously increased. Despite the fact, however, that millions and millions of red blood-cells are seemingly destroyed, there are no manifestations of that fact and no appearance of the pigment of these cells in any part of the system. There is no icterus and no hemoglobinuria. Where the destroyed cells go to remains a mystery. To say as some observers have said that there are more shadow corpuscles in the blood after descent, does not mean much so long as the hemoglobin remains unaccounted for. Neither does the claim that there are a few more nucleated red blood-cells and mitotic figures to be found in the blood during the supposed rapid multiplication of red cells just after the ascent carry much weight.

It will be seen then that there is in this effect of altitude on the blood a most interesting question on which the clinician may throw a good deal of light. Is the effect only a redistribution of the red cells of the body in such a way that while they were previously crowded into internal organs they are now allowed in the rarefied atmosphere of mountains to reach the periphery? If this be the fact what effect has it on the general well being and on metabolism and above all, how long after descent do these effects continue?

ANTENATAL THERAPEUTICS.

THE subject of treating the fetus in utero for various conditions from which it may be supposed to be suffering has recently awakened renewed interest. Fournier has shown that it is possible to treat satisfactorily, through the mother, the child of a syphilitic father, even though the mother herself shows no signs of specific disease. In the *British Medical Journal*, April 15th, Dr. J. W. Ballantyne of Edinburgh publishes the concluding lecture of a series of six on the subject of antenatal therapy, which also gives some very pronounced opinions on this rather fateful question.

At times claims have been made that almost every drug in the Pharmacopœia will pass through the placenta and affect the fetus, while at others the whole subject has been thrown into its pristine confusion by the announcement, supposedly on experi-

mental grounds, that scarcely any drug will pass directly to the fetus. Dr. Ballantyne practically adopts this latter conclusion, which is also that of the French school, and considers that the fetus is affected only indirectly, the nutritional function of the placenta being influenced by medication sufficiently to produce its modifying effect upon the fetus. Of the drugs that he has found especially valuable in this way, the chief are the antisyphilitic remedies, mercury and the iodids, potassium chlorate, and alcohol. The antisyphilitic remedies he considers of the greatest service. Potassium chlorate he regards, as did Sir James Simpson and does Lawson Tait, as a useful drug in cases where premature labor or abortion has become habitual or is for any reason feared. Alcohol in any excess on the part of either parent always robs the fetus of its power of resistance to disease and makes it morbid during life.

He closes his lecture with a warning with regard to the use of quinin in the pregnant woman, even for malaria, because of its liability to produce abortion. He also refers t the supposed fact that female workers in tobacco factories frequently abort. These are two fetiches that have crept into obstetrical literature and continue to have libations poured out before them by each new writer in this specialty. We do not know that there are any statistics in medical literature that justify the assertion that workers in tobacco abort easier than other women. In tropical countries where malaria abounds and quinin is freely used the idea of quinin ever initiating labor pains is ruthlessly scouted though it is considered by many, because of its tonic effect, to strengthen pains already occurring.

ECHOES AND NEWS

Tuberculosis Tests in Chicago.—In Chicago, on May 29th, twenty-five dairy-cows out of a herd of sixty-one were found, by means of the tuberculin-tests to have tuberculosis. These twenty-five cows were slaughtered and the tests confirmed.

Physicians' Certificates.—Some of the New York City justices have announced that they will no longer accept physicians' certificates of sickness for unwilling jurors, but that in such cases the physicians will be called into court to testify concerning such illness.

State Private Charities.—The forthcoming number of *Charities*, the official organ of the Charity Organization Society of New York City, gives a full statement of the private charities of New York State that receive public aid. The total of the public appropriation for this purpose in 1899 is $3,251,802.84.

New Dispensary in Brooklyn.—The new building of the Bushwick and East Brooklyn Dispensary, erected at the corner of Lewis and Myrtle avenues, Brooklyn, by Henry Batterman, in memory of his daughter, Laura Frances Batterman, will shortly be opened. The structure has cost $20,000 and Mr. Batterman has donated $25,000 for the work.

New York Quakers on Vivisection.—The Friends of New York have replied thus to a communication from the Friends' Antivivisection Association of London: "We feel that while vivisection may be justifiable as a means of gaining knowledge for alleviation of disease, we believe the practice for the purpose of testing or illustration of what is already known to science should be discouraged and restricted."

Mountain Toothache.—A peculiar affection of the teeth, mountain toothache, has recently been observed by an Italian dentist. The sufferers are engineers and laborers, new hands, working at an elevation of 2600 yards or over, and consists of intense pain in several adjoining teeth. This lasts for from four to five days, until the new men become somewhat accustomed to the altitude. The teeth in every case were apparently healthy.

New Officers of the American Orthopedic Association.—At the executive session, held June 2d at the New York Academy of Medicine, the following were elected as officers of the Association for the ensuing year: President, H. M. Sherman of San Francisco; first vice-president, R. Tunstall Taylor of Baltimore; second vice-president, A. R. Shands of Washington, D. C.; treasurer, E. G. Brackett of Boston; secretary, John Ridlon of Chicago.

Smallpox in the United States.—During the week ending June 3, 1899, 140 cases of smallpox, with 10 deaths, were reported to the Surgeon-General of the United States Marine Hospital Service, as having occurred throughout the country since May 15th. According to this report Louisville, Ky., leads the list with 75 cases, with 4 deaths, while Swampscott, Mass., reports 20 cases, with 1 death; Philadelphia, 29 cases, with no deaths, and St. Louis, 16 cases, with no deaths.

Christian Science in Chicago.—On June 1st it was reported from Chicago that within a few days two patients ill with diphtheria had been treated by Christian Scientists and had died. Each was four years of age. It is stated that the Health Department of Chicago has decided to take steps to compel those having charge of contagious diseases to provide medical attendance, in order that the lives, not only of the patients themselves, but also of those about them, may not be jeopardized.

A New Preparation of Thyroid.—Switzerland, the classic home of struma, still continues to contribute to the literature on thyroid therapy. In a recent number of the

Correspondenz-Blatt für schwetizer Aertze Professor Dr. Jaquet concludes a paper on experimentation with thyroid extracts and commends a new preparation called aiden. This is a precipitate from a solution of thyroid in normal salt by means of tannin and is said to contain a greater number of the extractive principles of the gland than have hitherto been obtained. It has not yet been sufficiently tried clinically to prove its efficacy, although the results from experiments on animals are promising.

Yellow-fever Quarantine.—In consequence of a yellow-fever case having been found in New Orleans the Texas State Health Authorities established a quarantine against that city on May 30th. On June 2d health officers of Alabama, Mississippi, and Louisiana reported concerning the health conditions in New Orleans to the effect that they could find no other cases of suspicious illness and could not trace the source of infection in the reported case of yellow fever. The investigators considered it unnecessary and unwise for any State or city to quarantine against New Orleans under conditions existing up to that date (June 2d). This report will probably influence the Texas Health Board to withdraw its quarantine.

Harvard's Medical Teaching.—Plans are well matured for the creation of a College of Comparative Medicine at Harvard University, an institution which will promote research work on original lines and with which the different medical departments of the University—the Harvard Medical School, the Harvard Veterinary School, and the Harvard Dental College—are to be coordinated. Three hundred thousand dollars has been set aside for the erection and the maintenance of a laboratory to be named after the late Henry L. Pierce. Six hundred thousand dollars additional will be required. It is proposed that the new college shall give the same facilities for research as the Pasteur Institute of Paris, the Jenner Institute of London, and the Institute of Hygiene of Berlin.

Christian Scientists Held.—Mr. and Mrs. George H. Kinter, Christian-Science "healers," and Mr. and Mrs. James C. Saunders, who are also Christian Scientists, were arrested at Buffalo, N. Y., on May 23d, on warrants charging them with manslaughter in causing the death of the nine-year-old son of the latter, Ralph L. Saunders, who died from pneumonia, and who, during his illness, had no medical care and no treatment other than that given by the above-mentioned "healers." As the death occurred on Federal ground the trial is being conducted under the United States laws before Commissioner Charles K. Robinson, United States District Attorney Close being the prosecuting officer. Mr. Close promises that the prosecution will be vigorous and thorough.

Coroners' Inquests.—After September 1, 1899, by an amendment to the Code of Criminal Procedure of New York State, which is to take effect on that day, coroners will be empowered to conduct inquests without the aid of a jury, except in a county which contains a city of the first class. After that date, therefore, coroners' juries will be impanelled only in New York, Kings, and Erie Counties. However, in New York County, the practice in the coroner's office has been for years, and no doubt is now, in accordance with the following law passed at Albany: "When, in the City and County of New York, any person shall die from criminal violence, or by a casualty, or suddenly when in apparent health, or when unattended by a physician, or in prison, or in any suspicious or unusual manner, the coroner shall subpœna a physician properly qualified, who shall view the body or make an autopsy, as may be required. The testimony of such physician, and that of any other witnesses that the coroner may find necessary shall constitute an inquest." In such cases juries are not called upon.

New St. Vincent's Hospital.—The new Free Hospital for the Destitute Sick, which has been built as an addition to St. Vincent's Hospital, at Seventh avenue and Eleventh street, New York City, was formally opened and blessed by Archbishop Corrigan, on May 30th. The hospital can accommodate, at one time, 1100 patients. The new building is seven stories high and has a frontage on Eleventh street of 145 feet. It is fireproof throughout and is so arranged as to afford plenty of light and pure air. This end is secured by a spacious roof-garden and by the arrangement of an interior courtyard, in which are a lawn, a large fountain, and a number of trees. The medical ward and the gynecological department were furnished throughout by Dr. and Mrs. F. S. Dennis. An X-ray apparatus was provided by Mr. John D. Crimmins. The building will be entirely devoted to free patients. On the first floor will be a dispensary and a reception-room for ambulance cases. On the second floor there will be children's wards. In the remainder of the building there will be six wards for men and three wards for women.

Obituary.—Dr. Henry E. Crampton died at Glen Ridge, N. J., on May 28th. He was sixty-two years old. At the time of his death he was Treasurer of the New York Academy of Medicine and a member of the New York County Medical Society, the Harlem Medical Society, the New York Medical Union, and the New York Genealogical Society. He was a veteran of the Civil War. He was for many years a Vice-President of the Association for Improving the Condition of the Poor. He devoted much time to philanthropic work.—Dr. Norman Shanks Kerr died in London on May 31st. He was very successful in the treatment of inebriety, and wrote a number of works on that subject. He was President of the Society for the Study of Inebriety.—Mr. John Hein, one of the originators of the Brooklyn German Hospital, which has just been opened, died on June 2d. He had been a sickly child and had never been well during the eighty-one years of his life. It is said that in his early youth, feeling that good health would forever be denied him, he resolved that he would devote his life to the accumulation of money with which to relieve the sick and destitute. He gave $30,000 toward the building fund of the Brooklyn German Hospital and $15,000 to the New York German Hospital.

A Psychopathic Epidemic.—Thomas Carlyle said:

"England has sixteen million inhabitants—mostly fools." He who doubts that as regards mankind in general there is a measure of truth in this statement would have had his doubt dissipated had he been at the Metropolitan Opera House in New York on the afternoon of May 28th. The immense auditorium was filled with people, about four-fifths women, who heard a young man give the lie to the wisdom of the ages. The occasion was a glorification of "Christian Science," and the lecture was given by one Mr. Carol Norton, C.S.D., Member "International Board of Lectureship of the Mother Church of Christian Science, Brookline, Mass.," under the auspices of the fourteen Christian Science Churches of the metropolitan district. Examples of the lecturer's fanatical credulity and insane vagaries are the following: "Christian Science has cured and is healing such diseases as locomotor ataxia, blindness, deafness, softening of the brain, paresis, Bright's disease of the kidneys, cancer, tumor, erysipelas, rheumatism, floating kidneys, paralysis, calcareous deposits in the joints, and shaking palsy." . . . "Physicians of both the allopathic and homeopathic schools are now accepting 'Christian Science' as the highest curative method known to the present age." The lecturer was no doubt unconscious of the humor lurking in the following: "Christian Scientists do not administer drugs, refrain from manipulating the body, and therefore cannot be classed as practitioners." A brief notice of some of the tenets of these odd folk may not be *mal a propos*. The teachers of this city would have us know, to begin with, that Christian Science is true because it is founded on reason and common sense. "All in mind—there is no matter." Yet the Christian Scientist eats solid food to nourish a body which he considers does not exist. And he pays a very substantial price for a weighty book in order that he may become cognizant of the mental vagaries which the leader of his sect exhibits therein. "Mortal mind," he tells us, "is error." Yet it is by means of this mortal mind and in no other possible way that he thinks, lives, moves, and has his being, and appreciates the relation of the world external to his *ego*. "The evidence of the senses," he tells us, "is a lie." Yet he relies upon one sense to take him into the lecturer's presence, upon another to find himself a seat, and upon a third to receive the lecturer's statements, which he considers Gospel truth, but which emanate from the lecturer's mortal mind, and are thus conveyed to his mortal mind, both of which mortal minds are in his opinion incapable of appreciating any truth whatever.

CORRESPONDENCE.

THE AMERICAN MEDICAL STUDENT ABROAD.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—Although occasionally one meets in Europe, an American taking the regular university course in medicine, the question of the study of medicine abroad, which is of paramount interest, refers to post-graduate work. Many Americans who intend spending the bulk of their time at Continental clinics and yet possess little knowledge of the required languages think it well to take up work in the pathological or bacteriological laboratories of universities situated in the smaller towns, of which Göttingen, in Germany, will serve as an example. Here social opportunities are greater and through these one may pleasantly further one's knowledge of the native tongue. It may be said, however, that where pathological studies of the nervous system are intended this plan will not do, as the smaller university cities offer few patients, and fewer autopsies of neurological interest.

When able to take the lectures it will be wise to proceed to one of the capitals on account of the greater clinical opportunities. Another reason is that the presence, in the smaller towns, of a considerable colony of foreign students is responsible for the arrangement of courses, which, in a measure, are planned for their needs.

Where only English is at one's command, and but a short stay contemplated, say six months, I think it best to devote one's time to British clinics exclusively. While my personal knowledge refers only to those of Germany and Austria many men met abroad who had spent some time in Great Britain testified to the wealth of clinical material there presented. They added, however, that in the use of the same it was expected that a man must make his own opportunities. Somewhat different from this, the natural aptitude to teach, which belongs to the German, makes no detail too small to bring to the attention of the student and scarcely a scruple stands in the way of using the patient to fulfill every requirement of a clinical demonstration, a factor carried to extreme limits at times.

Of the various university centers Vienna, no doubt, offers the best advantages to do all-around work, because, with a faculty second to none, everything may be accomplished within or near the great complex of buildings known as the General Hospital. Of special importance as regards physical diagnosis is a series of daily demonstrations at the bedside in the internal medicine and neurological wards. Clinical instruction in no other city, not even Berlin, permits an American student, without engaging himself for a specified time, in exclusive service, to daily enter the wards, there to examine an assigned patient, make his diagnosis if possible, and receive a demonstration of the case the second hour by the physician in charge of the ward. When one considers that the assistants are distinguished workers in medical science numbering among themselves such men as the lamented Dr. Müller, whose death from the plague has recently been reported, the high class of the work can easily be estimated.

It cannot be denied, however, that all the special courses (a plan of instruction which the American bent on saving time and imbued with the propriety of paying for what he wants to a great extent avails himself of), are not equally satisfying. For instance, the time was when the foreign student taking a special obstetrical course could attend patients in labor, but no Continental clinic that I know of gives this privilege, upon the above terms,

to-day. Normal cases may be had in some clinics if the student binds himself to remain six months in service. In Berlin, between sessions, in spring and fall, there are two courses which include demonstration on the manikin and attendance outside the hospital upon labor cases, all of which are abnormal. However, the great number who now subscribe reduces the cases appointed to each student to not more than two, while the abnormality may mean a stitch to repair a slightly lacerated perineum quite as well as a version. Moreover, in addition to the considerable stipend, one is obliged to purchase a small paraphernalia, pay one's own cab-hire, and to tip the clinic attendant two marks for each notification. Therefore, these courses, although of some worth, are to-day good ones to keep away from. A number of other vacation courses, however, especially such as are diagnostic in character, afford excellent opportunities and give good returns. The popularity of these classes arises either from the special character of the instruction given, as in the instance just mentioned, which afforded particular opportunities in obstetrics, or from the fact that the first assistant at this time may use the amphitheater of his chief for his special course, and thus being able to lecture to a comparatively large number of students, makes a reduction in price per man for the privilege of personally examining the cases presented. There is, however, much irregularity in this respect; although one can, in Vienna, for a florin a day, continuously obtain the excellent bedside demonstrations in internal medicine and neurology previously noted, one is compelled to pay 2 florins for children's diseases and 2½ florins for diagnostic gynecology and obstetrics. For these reasons, wherever the American student begins his work, let him seek to make a few friends among his countrymen who may best be found in the pathological section at the hour the post-mortems are held.

Men following specialties have this advantage: they will be more apt to have the time to serve as hospitants in the wards for a stipulated time, or as assistants in private clinics, while, for the same reason, they may visit a greater number of universities and thus place themselves under special teachers.

The cost of one's trip naturally depends upon individual demands for comfort or luxury. With care in expenditure $100 per month will carry one through nicely, but if something may be added the opportunity is afforded of spending some of the vacations in travel and so gather the many impressions of various peoples and scenes which add much to the fund of pleasant reminiscences usually carried to home shores.

BERNARD OETTINGER, M.D.

DENVER, COL., June 1, 1899.

KOPLIK'S SPOTS.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—You ask me concerning Koplik's sign in the diagnosis of measles. I am in the habit of watching for it in every case, and by its presence I have been able to diagnosticate subsequent cases occurring after exposure to a previous case before the eruption has appeared on the outer surface. In this respect it is pathognomonic and of practical importance, for, as a consequence, proper treatment can be promptly commenced, and the patient isolated at once. I can safely say that I have observed Koplik's sign in the mucous membranes of the mouth in ninety per cent. of the cases which have come under my care. Truly yours,

J. H. FRUITNIGHT.

161 WEST FIFTY-SEVENTH STREET,
NEW YORK, May 31, 1899.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—Since my communication to the American Pediatric Society, published in the *Archives of Pediatrics*, January, 1899, I have looked for Koplik's sign in all cases of measles seen in private practice. I have not kept any notes of these cases, but I have no hesitation in stating that the "speck" described by Koplik is an important aid to the early diagnosis of measles. I am not positive that I saw the spot in some mild cases, but I shall continue to examine all patients in whom I suspect measles for this early manifestation of the disease.

I have failed to find the buccal spots in children with rubella. I am Yours truly,

WALTER LESTER CARR.

68 WEST FIFTY-FIRST STREET,
NEW YORK, May 31, 1899.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—Replying to your letter of May 18th, my experience with Koplik's sign in the diagnosis of measles has been too limited for me to be in a position to express a positive opinion regarding it.

In a recent case, however, it was of positive value.

Ruth H., aged six years, on May 2d, had a slight dry cough, and redness of the conjunctiva. Her temperature was 100° F., in the forenoon. Thoracic signs were negative, and the fauces appeared normal. May 3d, the temperature was higher. Koplik's spots were seen on the inner surface of the cheeks and under lip. May 4th, the rash of measles was evident on the face and forehead, and in the next twenty-four hours was general. Bronchitis was mild. The course of the disease was uneventful. Very sincerely yours,

W. H. KATZENBACH.

17 WEST FORTY-FIFTH STREET.
NEW YORK, May 25, 1899.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—I cannot give you a very satisfactory answer to your question. I believe Koplik's sign is pathognomonic, and it is my custom to watch for it in all cases of measles. But it so happens that I have seen unusually few cases of measles in the last year, so that my personal experience is not extensive. It so happens, too, that there has been, as far as I know, no paper read on the subject in Philadelphia, and consequently no general expression of opinion in discussion, which has come to my ears. As far as I have heard men speak, it is believed in and sought for.

Sincerely,

J. P. CROZER GRIFFITH.

123 SOUTH EIGHTEENTH STREET,
PHILADELPHIA, May 25, 1899.

BLOODLESS TONSILLOTOMY.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—In your issue for May 27th appears a courteous reply from Dr. Lefferts. In it he asks one or two questions, and they are answered herein. Notwithstanding the fact that I have used the purse-string and recorded the instance to check severe tonsillar bleeding, and that he has not, the Doctor evidently considers that it would be hopelessly difficult. I beg to disclaim any special skill; used as advised, under anesthesia, the bleeding meanwhile checked by finger-pressure, anyone may do it successfully.

In re the case of furious hemorrhage which he describes, Dr. Lefferts asks whether the purse-string would have been applicable.

Why not? With a good light, a good gag, and the patient being in a faint, it would have been simple enough, and without anesthesia. Dr. Lefferts was fortunate in that case. Had the vessels divided been a shade larger probably the violent bleeding would have been resumed as soon as the heart began pumping again—or the surgeon's finger was removed. The purse-string would, however, have made further hemorrhage impossible.

To agree upon this point is less important than to recognize the value of *prevention* of bleeding in this operation. It was to advocate bloodless tonsillotomy, and to describe a case of it by my method, that the letter of May 20th in the NEWS was mainly written, and oddly enough Dr. Lefferts does not touch upon that point at all.

Bloodless tonsillotomy is a *fait accompli*. And while I have never as yet had the luck to meet with such a delightfully histrionic case of tonsillar bleeding as Dr. Lefferts describes, I should suppose that after just one such experience he would be the last man to decry an absolutely certain means of preventing its repetition. In that very case, if he had placed and tightened the purse-string *before* cutting out that tonsil, no blood need have been lost; the patient need not have been seized by the hair; all would have been politeness and decorum. And I do not think that Dr. Lefferts, who (upon theoretical grounds) considers my method so difficult of application to a case already bleeding, will assert the same thing when used as a method of *prevention*.

I must believe that in the future, when the plan becomes better known, it will be regularly adopted, at least in the class of cases where it is at once easiest of application, and where severe hemorrhage is commonest—that is, among adults.

Eucain (preferably) or cocain is first applied, freely and long. Then the four stitches are placed quickly and easily, as described in my letter. We next tie tightly the first half of a surgeon's or friction-knot. The tonsillotomy may now be done practically bloodlessly. After a delay of some minutes to permit of clotting in the divided vessels distal to the ligature, the silk may be loosened. Whether to remove it then entirely or to retain it loosely in place for a day or so as a measure of precaution in such adults, or to retie tightly at once, will depend upon the vascular conditions present when the purse-string is first relaxed after the amputation.

Of course the careful use of the snare would prevent the necessity for the purse-string. But as Dr. Lefferts' personal instance proves, even a specialist at times uses a speedier method and a simpler. And the bulk of the profession unquestionably use, and will continue to employ, the tonsillotome. To do this hereafter without risk of hemorrhage seems to the writer a distinct gain.

Yours truly,

ROBERT H. M. DAWBARN, M.D.
105 WEST SEVENTY-FOURTH STREET,
NEW YORK CITY, May 27, 1899.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

IMPORTANT ACTION TO BE TAKEN BY THE PHILADELPHIA COUNTY MEDICAL SOCIETY RELATIVE TO REFORM IN THE ARMY MEDICAL DEPARTMENT—SUPPRESSION OF NEWS CONCERNING CONTAGIOUS DISEASES—HEALTH STATISTICS.

PHILADELPHIA, June 6, 1899.

THE Philadelphia County Medical Society, through its delegation to the Columbus meeting of the American Medical Association, will bring to the attention of the Association the subject of reform in the medical department of the army. The general character of the army medical department during the Spanish-American War, the question of political influence in appointing volunteer medical officers, the notorious inadequacy of many parts of the army medical organization, and many other pertinent and vital topics will be considered. The following resolutions will be presented at the Columbus meeting for adoption and presentation to the President: "Whereas, the morbidity and mortality statistics of the late war have served to call to the attention of physicians of the United States the weighty and enlarging problem of the care of soldiers and sailors in peace and during campaigns, under widely varying conditions of climate and environment, now in many respects presenting themselves for the first time; therefore be it Resolved and recommended by the American Medical Association: (1) That the Medical Corps of the Army and Navy be enlarged to meet properly all demands that may be made upon them. (2) That the transportation of medical supplies be under the control of the Medical Department. (3) That a corps of sanitary inspectors be created, whose duty it shall be to examine into the sanitary condition of camps and troops in transit, and advise in relation thereto. (4) That the Government establish permanent camp sites, the selection to be subject to the approval of the surgeon-general, for use in the mobilization of large masses of troops. (5) That a professor of military hygiene be appointed at West Point to instruct the cadets in the principles of sanitation. (6) That the medical officers of the National Guard be subject to a rigid examination both for admission to the service and for promotion. (7) That the surgeon-generals of the army and navy in time of peace and war be empowered to call into requisition the services of skilled specialists. (8) That the President of the United States be respectfully urged to recommend to

Congress the appointment of an Army Medical Commission, to be composed of physicians and sanitarians taken from military and civil life, including the surgeon-generals of the army and navy, whose duty it shall be to prepare a report containing a detailed plan of a modern system to govern the medical departments of the army and navy in peace and war. (9) That a national department of public health be established, with a Cabinet Minister at its head."

The American Dermatological Association, at its annual meeting held in this city during last week, elected the following officers for the ensuing year: President, Dr. Henry W. Stelwagon of Philadelphia; vice-president, Dr. George T. Jackson of New York; secretary and treasurer, Dr. F. H. Montgomery of Chicago; member at large of council, Dr. T. C. Gilchrist of Baltimore. Among the notably valuable subjects presented at the last meeting were contributions on the sensory disorders of leprosy, by Dr. P. A. Morrow of New York; on the rôle of pus micro-organisms in diseases of the skin, presented for general discussion; on blastomycetic dermatitis, by Dr. J. N. Hyde of Chicago, and a general discussion on the pathology of skin diseases. The next meeting of the society will be held in Washington, as a part of the Congress of American Physicians and Surgeons.

The attempts made by the health authorities of this city to suppress the news regarding the prevalence of contagious diseases has met with a prompt and vigorous opposition by the State authorities. The latter body has issued resolutions, couched in unmistakable terms, deprecating this "ostrich-like policy," as they appropriately term it, and issued a statement advocating, for the protection of the public, the fullest publicity and the exact truth regarding outbreaks of contagious diseases. In the case of the present outbreak of smallpox in the suburb of Nicetown the city authorities have pursued such a high-handed policy of concealment, thus preventing residents in the neighborhood of infected houses taking necessary precautions for their own protection, that it is indeed high time that a halt is called on their peculiar methods. Copies of the State Board's resolutions have been presented to the Mayor, the Director of Public Safety, and the Chief of the Bureau of Health.

Col. J. Lewis Good has been appointed the new chief of the Bureau of Health, at an annual salary of $4000. Colonel Good has long been associated with the Board, and has been its acting chief since the disbanding of the old organization by a recent act of Legislature.

The total number of deaths in this city during the past week was 426, an increase of 42 over those of last week, and of 20 over the corresponding period of last year. Of this number, 115 were of children under five years of age.

For Diabetes Insipidus.—

℞ Pulv. opii . . . . . gr. iv
Ac. gallici . . . . . 3 ii.

M. Div. in chart. No. xii. Sig. One powder three or four times a day.

MEDICAL MATTERS IN CHICAGO.

[From Our Special Correspondent.]

ILLINOIS STATE MEDICAL SOCIETY—ADIPOSE TISSUE AN ETIOLOGICAL FACTOR IN HERNIA—SURGICAL TREATMENT OF HEMORRHAGE FROM GASTRIC ULCERS—ADRENAL TUMORS OF THE KIDNEY—VESICULAR MOLE—JOURNAL ILLINOIS STATE MEDICAL SOCIETY — OFFICERS — CHICAGO HOSPITAL — CHICAGO SOCIETY OF INTERNAL MEDICINE.

CHICAGO, June 6, 1899.

The Illinois State Medical Society held its Forty-Ninth Annual Meeting at Cairo, May 16th, 17th, and 18th. The attendance was small, but notwithstanding this a large number of papers were read, some of which were of a high scientific order. Dr. Alexander Hugh Ferguson of Chicago, read a paper on adipose tissue, an etiological factor in hernia. The evidence which proves adipose tissue to be an etiological factor in hernia is its physical properties; its tendency to accumulate in spaces and cavities, and then to descend; its locality and frequent accompaniment of hernia; its association with the development of certain forms of rupture, the fatty mass forming first and the true rupture following. Small lipomata form in the openings where hernia is most liable to occur, and by intra-abdominal pressure atrophy of the rings occurs; they thin out and weaken and become enlarged, and then the ball of slippery fat urged out by the *vis à tergo* protrudes more and more and drags the elastic peritoneum with it. If, however, the abdominal wall has no congenital deficiencies in the structures protecting the normal rings a hernia is rare indeed, and no accumulation of fat is liable to take place.

Drs. E. Wyllys Andrews and Daniel N. Eisendrath contributed a joint paper on the surgical treatment of hemorrhage from gastric ulcers, in which they reported two cases, and animal experiments. They reached the following conclusions: (1) The result of the practice of the best modern surgeons warrants the statements previously made on theoretical grounds that only operative interference can save the lives of some of the patients affected with bleeding ulcers of the stomach, namely those not improved by internal medication. (2) Surgical intervention is to be recommended, firstly, in small repeated hemorrhages; secondly, in severe ones, occurring more than once, especially if more than 500 c.c. is lost at each hematemesis. (3) A single copious hemorrhage is not necessarily an indication for operation. (4) In the ulcers at or near the pylorus, pyloroplasty (Heineke-Mikulicz) is ideal. It makes local treatment possible and gives all of the benefits of gastro-enterostomy and is safer. (5) Cauterization and curretting of the ulcer should give place to resection wherever the stomach wall can be reached from without. (6) If adherent posteriorly and at the ends of the stomach, cauterization, curettage, and ligature *en masse* are best substitutes for excision. (7) Ligature *en masse* is shown by the experiments to endanger perforation, except when supported by external sutures.

Dr. Bayard Holmes read a paper on adrenal tumors of the kidney. Grawitz described a group of tumors of the kidney resembling adrenal tissue, which he believed to

grow from fragments of adrenal tissue left in the kidney from the earliest embryonal period. Since that time these tumors have been more or less generally recognized. They appear (1) as masses troublesome only on account of their size, or on account of their tendency to metastasis in the lungs and bones, and (2) as sources of adrenal intoxication, producing a complexus of symptoms diametrically opposite to those of Addison's disease and parallel with the intoxication produced by hypertrophy of the thyroid observed in exophthalmic goiter. The cases presented illustrated both of these manifestations of the disease.

Dr. Carl E. Black of Jacksonville, reported a case of vesicular mole in a patient twenty years of age, accompanied by degeneration and rupture of the uterine wall, and great hemorrhage, necessitating the ligation of the left uterine artery. In this case the mass half filled an ordinary washbowl, and had the appearance of thousands of small white grapes piled up together.

Instead of publishing an annual volume of Transactions, as was heretofore done, the Society will undertake the publication of a monthly medical journal, to be known as the *Journal of the Illinois State Medical Society*. It is thought that this method of publishing the proceedings will materially increase the membership, as fully a thousand copies of the journal will be issued monthly. The new journal will be patterned somewhat after the official organ of the Pennsylvania State Medical Society, whose success in journalizing the proceedings of that body has been remarkable. Its editor will be the secretary of the society, Dr. E. W. Weis, of Ottawa, who is an indefatigable worker, and thoroughly capable of launching and conducting the new venture. The following officers were elected for the ensuing year: President, Dr. Harold N. Moyer, Chicago; first vice-president, Dr. J. T. McAnally, Carbondale; second vice-president, Dr. Weller Van Hook, Chicago; treasurer, Dr. George N. Kreider, Springfield; secretary, Dr. E. W. Weis, Ottawa. Place of next meeting, Springfield; time, third Tuesday in May, 1900.

The trustees of the Chicago Hospital have just had plans completed for what will be one of the finest hospital structures in the city. The cost of the building will be $200,000. It will be located in Fifty-first Street, west of Cottage Grove Avenue, and opposite Washington Park. It is to be in the shape of a wheel, with three three-story wings, forty-six feet in diameter, radiating from the hub. Fireproof construction will be followed, the building having steel frames, red pressed brick interior, with white terra cotta columns, iron balconies at each floor and tile roof. The entrance and rotunda will be of marble. This part alone will cost $45,000.

The Chicago Society of Internal Medicine, at its regular monthly meeting, held May 25th, elected the following officers: President, Dr. John A. Robinson; first vice-president, Dr. N. S. Davis, Jr.; secretary, Dr. Edward F. Wells; treasurer, Dr. M. L. Goodkind, and censor, Dr. Arthur R. Edwards.

OUR LONDON LETTER.

[From Our Special Correspondent.]

SCHOOL PHYSICIANS — ANOTHER MEDICAL HERO— INCREASE OF VACCINATIONS UNDER CONSCIENCE CLAUSE—"TRAGEDIES BOUND IN OAK" — DISAPPEARANCE OF MALARIA IN ENGLAND—MEDICAL RESEARCH SCHOLARSHIPS—LONDON FOG.

LONDON, May 25, 1899.

THE London School of Tropical Medicine has been formally launched upon the charity of the public. At a public dinner, held at the Hotel Cecil, the Secretary of State for Foreign Affairs, Mr. Chamberlain, in an admirable speech, sketched the plan of the scheme and eloquently depicted its many and great advantages. So great were the latter he declared that even the starchy formalism of the great Government Offices, the Indian, the Foreign, the Colonial, had been melted to enthusiasm by it. The scanty metallic deposit which resulted from this melting we have already alluded to, but the long-suffering public has meekly done what was expected of it and made good the deficit. It was announced at the close of the dinner that of the $80,000 required no less than $75,000 had been already subscribed, including the Government's gift of $16,000.

Stirred by the excellent work done and published of late by American and German school-physicians the English profession is beginning to demand a formal and official recognition of its opinion in educational matters. If there be anything which is being more emphasized than another in the new education it is the importance of the physical condition and fitness of the child, and yet the views of the only body of men really competent to give advice on this subject are absolutely ignored in the makeup of the working staff of the school and school board. Curricula are laid out, hours of work fixed, nay even buildings planned and ventilated by teachers and trustees ignorant of the simplest principles of physiology, or of the needs of the growing organism. A physician, as the *Lancet* is now demanding, should be a regular officer or member of every important educational body.

Another name has been added to the public roll of medical heroes (which does not represent a tithe of the actual number) who have risked their lives to save their patients. Dr. R. J. Burns of Sunderland was called to see a man who had attempted suicide by taking a quantity of rat-poison containing phosphorus. The stomach-pump broke down and the brave doctor actually applied his lips to the tube and sucked out the deadly contents of his patient's stomach, thereby saving his worthless life. A more repulsive and dangerous service was never rendered from pure love of humanity, for the patient was a drunken ne'er-do-well, little better than a tramp. It was a beautiful illustration of that noble, old traditional instinct of our profession, of absolute devotion to our patient, as such, regardless of who or what he may be personally. But what of the wife or children or parents of the physician and their rights in the premises? We may not, of course, weigh for a moment the value of our own life as against that of another, but there are others whose rights and interests in us we are morally bound to con-

sider. Dr. Burns' action was magnificent, but it wasn't war, and while we glory in his splendid bravery, we reserve our opinion of his judgment. Fortunately Dr. Burns escaped with a sharp attack of phosphorus poisoning, from which he soon recovered.

Professor Haffkine, who is in England on leave of absence, is to lecture before the Royal Society, upon "Preventive Inoculations," June 8th.

And still that bastard compromise, the new Vaccination Act, seems to be working well in practice. Mr. Collings reported in Parliament a few days ago, that in Ipswich, where the average number of vaccinations for several years past has been 33 per quarter. 198 had been performed in the January quarter of the present year. And these again, as at Oldham, included the families of several hardened "anti" offenders, and even children, for whom an exemption had been taken out only a few weeks before. Truly the "*bete humaine*" can be easier led than driven.

An excellent story at the expense of the profession is going the rounds here. Alexander Dumas, when a young man, was introduced to a pompous old physician who, in a patronizing way, asked him if it were really true that he "made tragedies for a living." "Yes," replied Dumas, "just as you do, only yours are bound in oak."

The recent developments in the natural history of malaria and the desire to obtain material for direct study are calling attention to the remarkable manner in which the disease has disappeared from England. In the great London hospitals it is practically unknown, it is regarded by most general practitioners as a tropical disease, and even in the celebrated Fens of Lincolnshire and Cambridgeshire, where, within the memory of living men, it was as common as in "Injeanny," it is now quite rare. In conversation with several prominent East Coast physicians a short time ago the writer was greatly struck by the unanimity with which they all declared that they had scarcely seen a case of malaria in twenty-years' time. And there is an abundance of low-lying land by both sea and river, indeed, the entire island is like a sponge lying in an ocean bath-tub. *But every acre of it is drained*, and this seems to be the secret of the rapid decline of malaria, for the mosquito cannot continue to breed where swamp-water is not constantly present the year round. Fifty years ago quinin was a regular article of daily diet in Lincolnshire as it is now in the valley of the Wabash, and only a short time since an elderly patient consulted a London otologist for deafness, whose origin he attributed to the large amount of quinin he had taken as a boy in the Fen district. The drain-tile is the chief enemy of malaria, as also of typhoid and pulmonary tuberculosis.

The defeat of the bill compelling shop-keepers to provide seats for their saleswomen by the House of Lords has produced a most unfavorable impression in the profession. No medical man, American least of all, has the slightest doubt of the vital importance of such a provision and the crying need for legislation to secure it, and its defeat, solely upon the ground advanced by Lord Salisbury, in his sudden outburst of ignorant bitterness against it, that "people can usually be trusted to manage their own sitting down and rising up without the assistance of law," a speech which killed the bill after it had passed the Commons and been favorably reported by the Committee in the House of Lords, will be a serious blot upon the reputation of that gentleman in the eyes of the entire medical world.

On every hand the value to the State of medical research is being more and more widely recognized. The Technical Education Board of the London County Council is now cooperating with the Asylums Committee in offering a scholarship of $750 a year, tenable for two years, for the investigation of the preventable causes of insanity. The research is to be carried on in the Pathological Laboratory of the Claybury Asylum.

The Secretary of the British Medical Association announces that the annual sum set apart for grants toward medical research will be allotted June 15th, and the two research scholarships be granted on that date. He, therefore, invites applications from medical men desirous of availing themselves of the assistance of a grant or scholarship in their investigations. The value of the scholarships is $750 and one of them is the Ernest Hart Memorial Scholarship in State Medicine.

A singular case of blood-poisoning has just been reported in London. A woman fell and slightly grazed her wrist and, to protect the injured surface, covered it with stamp-paper, or strips of the gummed paper which borders the sheets of postage-stamps. This adhered firmly and completely sealed the wound, but pain and throbbing quickly set in, septic symptoms developed, and death occurred within sixty hours.

The following medical men were elected Fellows of the Royal Society, at the annual election, last week: Ernest H. Starling, physiologist at Guy's Hospital; Bertram C. Windle, anatomist; Major Bruce of Tsetse-fly fame, and Henry Head.

The National Association for the Prevention of Consumption is making rapid progress, having already a membership of nearly 1500 and some $6000 in its treasury.

It really looks as if the London-fog nuisance was going to be seriously attacked at last. From tables given in a recent lecture by the Honorable Rollo Russell, before the Building Trades' Exhibition, it appears that during the five months of last winter, from November to March, London had less than half the amount of sunshine of inland stations and barely a third of that of the stations on the South coast. As the mortality records show it is this loss of sunshine which is the real damage of fog and not its effects upon the respiratory organs as usually supposed. A fog, suffocating as it seems, really increases the deaths from respiratory diseases but very slightly. An active crusade against this nuisance by compelling the use of smoke-consumers is already on foot.

For Insect Bites.—

℞ Menthol . . . . . gr. xv–xxx
Etheris . . . . . ʒ iiss.

M. Sig. Touch the spot with a fine-pointed applicator dipped in this solution. Avoid vicinity of eye.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

ON THE EXAMINATION OF WHITE BLOOD-CORPUSCLES —ALKAPTONURIA — APPENDICITIS RESULTING IN SUBPHRENIC ABSCESS—ENCYSTED VESICAL CALCULI —PHAGOCYTOSIS OF EXTRAVASATED RED BLOOD-CELLS — TUBERCULOSIS OF THE STOMACH — ARTHROTOMY FOR PAIN AND FOR ABNORMAL JOINT PRODUCTS—THE CAUSES OF DEATH AFTER ABDOMINAL OPERATIONS.

AT the Royal Medical and Chirurgical Society, April 25th, PHEAR read a paper on the clinical examination of the white blood-corpuscles, calling attention to the advantages which fluid films of blood have over dried preparations. In the latter the forms of the corpuscles are distorted, and some of the corpuscles may be washed away in the course of preparation. In preparing his specimens he adds a drop of a two-per-cent. solution of methyl-blue in alcohol, to a small drop of blood on a glass slide, and mixes the two fluids by blowing air on the drop through a pipette. A cover-glass is laid on the drop, and its edges sealed with vaselin. The preparation may then be examined at leisure with an immersion lens. In making blood-counts, a large area should be examined, the larger the better for the purposes of accuracy. The daily variations in the average number of the different kinds of cells are remarkably small. In a healthy individual, the following figures represent the average limits of percentage variation of the different kinds of cells: (1) polymorphonuclear cells, from 45 to 60 per cent.; (2) rounded hyalin cells, from 35 to 40 per cent. (inclusive of lymphocytes from 10 to 20 per cent., and large hyalin cells about 2 per cent.); (3) large oval cells, with irregular nuclei and protoplasm staining diffusely with methyl-blue (a form of cells not described by those who use the dry method), from 5 to 10 per cent.; (4) cells containing coarse oxyphil granules, from 1 to 1.5 per cent.; and, (5) cells containing basophil granules, from 0.3 to 1 per cent. The blood should, if possible, be procured for examination before the first meal of the day has been taken.

At the meeting of May 9th, GARROD read a paper on alkaptonuria. This name is applied to a condition of the urine which causes it to turn a dark color soon after it has been passed. The addition of an alkali makes the change in color still more striking. Such urine will reduce Fehling's solution with the aid of heat, and ammoniacal silver nitrate in the cold. Hence it might easily be mistaken for a glycosuric urine. Only a few cases of the passage of such urine have been reported, but the reader of the paper had opportunity to make examinations in five such. He had come to the conclusion that the essential feature of alkaptonuria is the presence of homogentisinic acid, and that uroleucic acid when present is of the nature of a by-product of abnormal metabolic processes.

PAVY said that he had had experience with five cases. It was curious that the health of the individuals in question was not affected. In this respect one might draw a parallel between alkaptonuria and cystinuria, as the presence of cystin in the urine gives rise to no symptoms unless crystals form.

At a meeting of the Medical Society of London, April 24th, ROBINSON read a paper on some cases of appendicitis in which the pus found its way upward along the colon into the space between the inferior surface of the liver, the upper part of the kidney, and the hepatic flexure of the colon. Sometimes it was difficult to decide whether the route was an intraperitoneal or an extraperitoneal one, but the former seemed more probable.

BATTLE mentioned three instances in which an appendical affection had traveled up the peritoneal surface of the bowel and caused an abscess between the liver and diaphragm.

CLARKE read a paper, May 8th, on encysted vesical calculi, giving an account of twenty-seven cases. If a stone is fixed to the bladder wall, the usual symptoms of calculus, pain, and hematuria, are absent, but there is apt to be cystitis. Most of the encysted stones were near the base of the bladder, and it was often difficult to detect them either with a cystoscope or other instruments. They usually occurred in individuals between sixty and seventy years of age. If possible to grasp an embedded stone, it should be crushed *in situ*, but frequently it was held so firmly that it could scarcely be seen or felt after a suprapubic incision had been made.

FREYER spoke of the rarity of encysted stones, as he had met with only 20 in 2000 cases of vesical calculus, or just 1 per cent.

At the Pathological Society, May 2d, ANDREWS showed pus from an injured knee-joint, illustrating phagocytosis of extravasated red blood-corpuscles by leucocytes. An arthritis had set in seven days after injury, and the joint had been aspirated several times, but no organism could be demonstrated either by examination or by culture. The pus-cells were large and showed numerous included red blood-cells.

STILL reported five cases of tubercular ulcer of the stomach in children, the only ones he had met with in the examination of 226 children with tuberculosis. In all five cases there was extensive tuberculosis of other parts of the body. In one case perforation had occurred but owing to adhesions about the stomach there had been no acute peritonitis.

At the Harveian Society, May 4th, LOCKWOOD read a paper on arthrotomy for the relief of pain, removal of synovial fringes, loose bodies, and fibrocartilages. Four operations upon the wrist-joint were for pain alone. One wrist was found to be tubercular; two were possibly pyemic, and the head of the ulna in the fourth was found to be chronically inflamed and eroded, and was excised. The other cases were drained. In all the relief from pain was immediate and permanent. The knee-joint of a woman was found to present no lesion except the inflammation and thickening of the synovial fringes. The ligamentum patellæ was divided to give a good exposure, and the fringes were excised. The result was excellent. In three cases the internal semilunar cartilage had been ex-

cised. The locking of the joint was in every case relieved, and the functions of the limb were in no case interfered with.

MARSH thought that a transverse division of the patella was the most satisfactory way in which to expose the knee-joint.

ALLINGHAM, who had operated upon fifty cases properly classified under the title of the paper, preferred a longitudinal division of the patella. He had removed the dislocated semilunar cartilage in 18 cases, and sutured it in 13 others.

At the British Gynecological Society, April 13th, SMYLY read a paper on deaths after abdominal celiotomy, mentioning as causes, shock, hemorrhage, ileus, uremia, inanition, tetanus, embolism, and sepsis. He said that shock is a term applied to a group of symptoms which may be due to a variety of causes, but is generally in direct proportion to the magnitude and duration of the operation, especially when associated with long exposure and manipulation of the intestines, to the amount of blood lost, and the cooling of the body generally. No doubt the larger number of cases reported as deaths from shock have been due to loss of blood during or subsequent to an operation.

Ileus is one of the most disappointing sequelæ of laparotomy. The early diagnosis of this complication is of the utmost importance, but unfortunately this is often impossible. When the symptoms set in suddenly with violent paroxysmal pain in a localized position, when the peristaltic action of the intestine can be seen and felt through the abdominal wall, and the patient lies prostrated between the attacks bathed in cold perspiration; when neither flatus nor feces are expelled after energetic efforts to procure evacuation, when vomiting sets in after the second or third day, and the abdomen becomes distended, an error is scarcely possible, but such a stormy onset is exceptional, and most of these symptoms are simulated by other conditions. The obstruction may even be incomplete, and the bowels may be evacuated at intervals, and yet the patient may be lost. In any case active measures should be at once employed to induce the bowels to act, the stomach should be washed out, and copious enemata administered with a long tube, and, when the stomach can tolerate it, calomel, Glauber's or Epsom salts administered. Should these measures fail, the abdomen should be reopened without further loss of time.

Thrombosis occurs from septic infection, or from prolonged pressure of pelvic tumors upon veins, or sluggish circulation due to the quiet recumbent posture or the change in the intra-abdominal pressure due to the removal of large tumors. . As thrombus is a potential embolism, and as it may be set free even at a late period, patients should be cautioned against violent efforts or straining for some time after an abdominal operation. Smyly lost a patient three weeks after operation from embolism, brought on by buttoning her boots.

Speaking of sepsis, the reader gave great credit to Lawson Tait and Bantock, saying that the doctrine of cleanliness originated with them and has been based upon their teaching. "Years ago," he said, "whilst most of us were practising antiseptic methods, they, in the face of bitter opposition, insisted upon the importance of perfect cleanliness, and pointed out the injurious effects of chemical substances in irritating and poisoning the tissues."

In the discussion which followed, ELDER took exception to the credit given Tait, saying that he considered that the modern knowledge of asepsis is due to the untiring efforts of Lister.

SOCIETY PROCEEDINGS.

AMERICAN ACADEMY OF MEDICINE.

Twenty-fourth Annual Meeting, Held at Columbus, Ohio, June 3-5, 1899.

THE meeting was called to order by the President, DR. EDWARD JACKSON, in the assembly hall of the Chittenden Hotel. Renewed interest was manifested in the organization by the election of thirty-one physicians to fellowship, among whom were F. F. Whittier of Brookline, Mass., J. E. Brower of Columbus, F. D. Bullard of Los Angeles, W. W. Keen of Philadelphia, Gertrude A. Walker of Philadelphia, N. P. Dandridge of Cincinnati, J. S. Marshall of Chicago, and F. W. Spaulding of Clifton Springs.

The scientific business was opened by the reading of a paper by DR. L. DUNCAN BULKLEY of New York, on "How Far Has Specialism Benefited the Ordinary Practice of Medicine?" By elevating medicine as a science, specialism has advanced its honor as a calling. Special study has classified diseases more clearly and simplified nomenclature. Obscure conditions of disease have been discovered and elucidated. Treatment has been simplified and crystallized, and new methods and measures introduced. All the discoveries and advances made by specialists have been freely given to the profession in current literature and text-books and by means of lectures and clinics every effort is made to enlighten the general practitioner in regard to each branch. The specialist has frequently succeeded in the cure of diseases which the general practitioner has been unable to accomplish unaided, and has often relieved him of great embarrassment. Incidentally specialism has tended to improve the financial relations of patients to physicians and educated the public as to the value of professional services.

The next paper, on "Some Obstructions to the Progress of Specialism in Medicine," was read by DR. G. HUDSON MAKUEN of Philadelphia. The obstructions to the development of specialism are almost wholly within the profession itself, in the attitude of its members toward their patients and toward one another. An innate selfishness and a natural desire for gain engender a foolish spirit of competition which should have no place in professional transactions, where duty to patients demand first consideration. Some illustrations were given of the lack of professional courtesy in the interchange of patients, and an attempt was made to show that this lack of courtesy is the greatest obstruction of specialism in medicine.

DR. L. R. CONNOR of Detroit: Any one familiar with

the history of medicine will recollect two facts, one of which is that great epoch-making discoveries in the past have been from men called general practitioners, as evidenced in the work of John Hunter and Lister, the discoverer of chloroform, and those who have opened up the specialties of disease pertaining to women. I am glad the specialist has come, but still more glad that the general practitioner remains with us.

DR. H. O. MARCY of Boston: I was reminded by Dr. Bulkley's paper of a little anecdote of the First Massachusetts. When on its march there was an overturned engine by the roadway. The commander asked if there was any one in the ranks who could help repair it. Out stepped one of the privates, and said: "I helped to build her, and think I know something of the repairs;" and in a short time it was on the track. There is an illustration of the specialist in the ranks. He was quite ready to carry his rifle or serve his country as best he might, and there came his opportunity to do it in a special way. The ideal physician is the exponent of God's great law; he is the engineer, who like the private understands the repair of the engine. He must be an anatomist, which is the ground-work which makes him what he ought to be.

DR. AUGUSTUS P. CLARKE of Cambridge: Every one must feel that the subject of medicine is too broad for any one person to comprehend and, therefore, there must be subdivisions in the practice. One of the drawbacks to specialism is that the young men want to enter too soon without adequate knowledge. Those who have succeeded best have been those who have walked along the lines of general medicine, have had rough experiences, and have discovered something that has impressed them in connection with some one subject to which they are adapted.

DR. A. GOLDSPOHN of Chicago: Specialism in medicine is an absolute necessity; division of labor is absolutely essential. While it is true that some few discoveries have been made before specialists were distinctly classified as such, they have been made along the line of much digging out, much concentration of thought, and so the advancement of medicine as a whole is in that course, with a few accidental discoveries made by general practitioners. Advancement of medicine is undoubtedly due to this division of labor, concentration in certain lines.

DR. DIDAMA of Syracuse: I was much pleased with Dr. Bulkley's paper, in which he claimed that there were advantages in specialism and that there are dangers; the danger of the general practitioner treating a case that he does not know much about, and the danger of the specialist in thinking he knows it all. There are so many specialists that there is not much left for the practitioner. Going back to the fathers of medicine we know that they did discover something by being general practitioners. Up to a few years ago discoveries were made by general practitioners and I think they are doing very well now. The great danger is that the student, when he receives his diploma, decides that he will be a specialist. He does not like to say it is because there is money in it, but that does influence some of them.

"Ethics of Specialism," was the title of a paper by DR. A. L. BENEDICT of Buffalo. He said in part: The existence of specialism is a departure from the old principle, that the assumption of superior skill is unethical. The specialist implicitly claims such superior skill, if he is honest. Specialism should not consist merely in experience accidentally acquired in general practice. Specialists should always be prepared for emergency practice.

DR. G. HUDSON MAKUEN: It seems to me that the subject is broad enough to occupy our whole attention without bringing into it that which does not rightly belong in it. Ignorance and falsehood are the same thing, whether they are in the daily life of the so-called specialist or the general practitioner. Very much that has been said against specialism, I think, is not against specialism at all. Certain classes of men find in the new order of things a place to hang their complaints upon, and I fear, in our profession, specialism is such a hook to a good many men.

DR. GEORGE M. GOULD: Whatever will be said, the thing is going on. It is in the line of science. Our science to-day of medicine is such an infinite thing that no living soul can amass the knowledge required in any one branch; we will have to divide it in order to conquer. Of course many ignorant men will press into specialism. These are the evils which must be met as evils. One way of meeting these evils is the great improvement in medical education; we are educating our men better. The increased length of the medical course, the higher standards of the initial examination prepare our men better in general medicine and make them understand the general principles upon which any specialty rests.

"The Passing of Materialism," was read by DR. GEORGE M. GOULD of Philadelphia. He said: Some twenty-five years ago materialists and atheists had a weapon called science placed in their hands; and many others using this without a knowledge of psychology and metaphysics rushed into materialism. Herbert Spencer is probably more responsible than anyone else for the materialism of modern scientific thought. The world is, at last, learning that he has contributed little or nothing to the evolution of philosophy and genuine science. This condition is happily passing away. The lessons suggested are: (1) The method of science is by logical and legitimate induction from facts correctly observed, without prejudice or dogma. (2) There is a character or soul-unity in a people, or a school of investigation, which does not change despite a revision of the nomenclature. (3) The individual may be impelled to err from various conditions; prejudice, passion, conservatism, with a resulting injury to the individual. (4) The science of medicine suffers along with this individual injury.

DR. CONNOR: I rise to express my gratitude to Dr. Gould for the presentation of this paper at this time. I don't know whether the presence of Christian Science, or of a pure psychic medicine abroad in the land is the result of the sins of the medical profession in failing to recognize that there is a science outside of the science of matter. And yet I am sure that every practitioner, gen-

eral or special, when he recounts his work will have a conviction that the best of the work he ever did never had any relation to matter. Most of us believe that which retains time and activity acts and operates on as definite lines as do the laws of Nature, and these laws we have not studied to master as much as we might.

At the opening of the meeting June 5th, the nominating committee announced the following appointments: President, G. Hudson Makuen of Philadelphia; first vice-president, Charles I. Plummer of Salt Lake City; second vice-president, A. Goldspohn of Chicago; third vice-president, Edward F. Wilson of Columbus; fourth vice-president, A. L. Benedict of Buffalo; secretary and treasurer, Charles McIntire of Easton; assistant secretary, Walter L. Pyle of Philadelphia. The question of the place of meeting was left with the Council.

The President, Dr. Edward Jackson of Denver, then read his address, entitled "The Doctor's Duty as a Teacher." He said in part: Let us pause a moment to think of those whose work with us has ended. Vermyne, with broad strong face and kindly heart; Carpenter, keen, incisive, highly strung; Rohé, looking on medicine and life from many sides; Pepper, carrying great burdens yet always ready to listen and to give earnest effort for the good of profession or public; Sibbet, patiently working with assured confidence for the future — these have taken permanent places in the storehouse of memory. There can be no doubt but that the founding of the Academy was due to Sibbet. If, as Emerson says, an institution is but the lengthened shadow of a great man, he was the man.

The title of doctor-teacher has been most widely used and most willingly accepted in this country to indicate a membership in our profession. I believe this has come about through some perception, however imperfect, of the fact that the doctor's highest, most prominent, and most important relationship to the community is that of teacher. His function as a dresser of wounds, a remover of diseased tissue, a repository for certain knowledge regarding the action of drugs, and the skill to recognize disease are important ones, and more likely to meet an immediate financial recognition. But all we do in this direction is surpassed by the advice and teaching which enables our patients or the community to best develop and sustain and conserve their vital powers. In addition to this it is well worth while to recall the urgent need of the body social for guidance and instruction from its doctors. At the present time hygiene is practically a special branch of medicine in its wider sense. The teaching of this department has been deficient and one-sided. From the standpoint of racial health and vigor of what avail is it to save from cholera infantum and diphtheria merely to swell the number of cripples, consumptives, and the insane? How insufficient to improve the street-paving and the sewage system for men and women who work with the needle sixteen or eighteen hours a day and live on bread and tea at one end of the social scale, or who do not work at all and live on the stimulants of diet and amusement at the other end?

Until men become wise and virtuous the war against quackery must continue. To destroy the foundations of quackery we must teach the truth that the influence of the drug for benefit is at best but partial, temporary and not unmixed with evil, that cures are wrought by great natural forces which medicines cannot create. The well-being of society demands the full performance of the doctor's service in teaching, the guidance of his thought in its attitude and reaction toward the myriad influences of our civilization that may serve as the normal stimulants of life, or become the starting-points of morbid action, making for racial degeneracy and social death.

"Advertising in the Medical Profession," was the title of a paper by DR. C. T. MCCLINTOCK of Detroit. The writer dealt with advertising in the profession only. In no business, certainly in no profession, are the people so incapable of choosing the good from the poor as in the choice of a physician, as is evidenced by the success of the medical pretenders. Many physicians are giving more time and thought to the securing of patients, advertising if you choose, than to the study of their profession. Many young men are rusting in medicine because their time is taken up in advertising, lecturing in medical colleges, attending medical societies, not to learn, but to become known. There are prominent men who mail five thousand reprints of their papers. Others scatter broadcast illustrated papers showing the "before and after taking" of orthopedic surgery. These are reputable men, college men, prominent men in the profession. Probably the most skilful advertisers are the college professors, working on the students for patients in after years. The sanatoriums are probably the worst offenders in such advertising. The people see nowhere a distinct line separating the reputable and disreputable physicians. It is more than doubtful if the young practitioner, well qualified, who locates in our larger cities would ever meet with reasonable success if he stuck literally to the spirit and letter of the code. Higher education will not solve this difficulty. With every increase in the requirements for the practice of medicine there goes an increase in the number of medical students. The best that can be hoped for is that the profession may assist the people in choosing their physician, so that the most deserving shall receive their dues.

The next paper, by DR. E. STUVER of Fort Collins, Wyo., on "What Will Be the Future Policy of the Medical Profession with Regard to Medical Advertising?" was read by DR. G. HUDSON MAKUEN of Philadelphia. All physicians, from the most eminent to the most obscure should be accorded equal advertising privileges. Professional advertising should be limited to the insertion of plain cards in the local papers or a sign pointing out the location and office hours of the physician. All local notices in which the name of the physician is mentioned in connection with the treatment of cases or the performance of operations should be absolutely interdicted. The public should be educated to regard active participation in promoting the organization of the medical profession and assisting to build up and strengthen medical societies as a criterion of greater professional eminence and distinction than mere local notoriety.

THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

The Association of American Medical Colleges held its regular annual meeting in the hall of the House of Representatives June 5th. An unusually large number of members was in attendance.

DR. J. M. DODSON, junior dean of Rush Medical College, Chicago, read a paper on "The Elective Course in Medical Schools." This was an elaborate attempt to adapt the system which prevails in universities to the medical curriculum. The men who discussed the paper showed that the plan would prove disastrous by leading at once to the development of superficial specialists.

DR. G. C. SAVAGE of the University of Nashville presented a paper on "The Condition of Medical Education in the South." Despite the desperate struggle that had been necessary during the last thirty years to maintain the medical schools of the South, the battle has been bravely won for most of the schools, and the prospect is bright. They are not ready just yet to put into force, at least all of them are not, the four-year's course. The peculiar circumstances under which they had labored demands recognition and continued indulgence of the Association for at least two years longer, at which time they would all expect to come into line on the four-years' course.

The American Medical Association at its meeting in Denver, in 1898, officially accepted the standard of the Association of American Medical Colleges as the minimum standard of colleges that will be recognized by it as entitling its graduates to membership in its ranks. The decision of the Association of Colleges in any individual case is equivalent, therefore, to admitting or excluding medical men from representation in the Association. Admission to membership in the Association of American Medical Colleges is, therefore, sought by all the medical schools of the country. This year the Cornell University Medical College of New York made application for membership, but was refused on the ground that it was graduating men this year on a three-years' course.

After a heated discussion on the part of the Chairman of the Judicial Council, and Dr. Connor of Cincinnati, the mover of the resolution, the following amendment to the Constitution was adopted:

Every penalty for violation of an article of the Constitution (such violation having been reported to the Association by the Judicial Council after due examination made by said Judicial Council), shall be determined by vote of the Association at the annual meeting at which the violation has been reported, a three-fourths affirmation vote of the colleges represented being required for expulsion.

THE NATIONAL CONFEDERATION OF STATE MEDICAL EXAMINING AND LICENSING BOARDS.

This Association held its ninth annual meeting June 5, 1899, under the presidency of DR. WILLIAM WARREN POTTER of Buffalo. Addresses of welcome were delivered by GOVERNOR BUSHNELL and DR. CHARLES A. L. REED of Cincinnati, which were responded to by DR. JOSEPH M. MATHEWS of Louisville.

The president delivered his annual address, in which he emphasized the great importance of higher medical education and of more rigid preliminary requirements.

DR. N. R. COLEMAN of Columbus presented the report of the Committee on Minimum Standard of Requirements. The standard of minimum requirements of several States was given. The committee is of the opinion that educational qualifications for entrance to medical colleges must be essentially uniform in order that technical courses of study builded upon them may also conform to each other. In no other way does it seem possible to establish that educational reciprocity which is believed to be desired by all States. In spite of certain objections the committee has adopted as a minimum standard, the four-years' course in the high school, for the reason that the high school is found equally distributed over all the States and Territories. Furthermore, being maintained by public funds it is enabled to furnish the best possible facilities and equipment free of charge to our youth, whereas a college education can be enjoyed by few other than the more prosperous in the communities.

The confederation elected the following officers: President, Dr. J. N. McCormack of Bowling Green, Ky.; secretary-treasurer, Dr. A. Walter Suiter of Herkimer, N. Y.

THE AMERICAN MEDICAL EDITORS' ASSOCIATION.

The meeting was called to order by the President, DR. THOMAS H. HAWKINS of Denver, Col., in the Hall of the Young Men's Christian Association on June 5th.

After the transaction of routine business DR. J. D. EMMET of New York read a paper on "The Ends and Aims of Medical Journalism," in which he prophesied the approach of that millennial time when all medical publications shall emanate from the profession and shall be owned and published by members of the profession, with such a strict censorship that no patent or proprietary drug or surgical appliance shall receive mention therein.

A brief discussion was also held on the relations of editor and author and the rights of each as regards contributed articles. This proved too delicate a subject for general public discussion and it soon became apparent that the rules governing this relation must be formulated by each one for his own guidance. The banquet was held at the Columbus Club, at which covers were laid for one hundred guests. Dr. I. N. Love of St. Louis was elected president for the ensuing year.

AMERICAN MEDICAL ASSOCIATION.

Fiftieth Annual Meeting, Held at Columbus, Ohio, June 6-9, 1899.

(Special Telegraphic Report to the MEDICAL NEWS.)

GENERAL SESSION.

FIRST DAY—JUNE 6, 1899.

AFTER prayer by REV. WASHINGTON GLADDEN, D.D., GOVERNOR BUSHNELL of Ohio welcomed the Association to the capital of the State very heartily and fraternally, recalling the fact that he had been an apothecary himself before he went into the mower and reaper business in another line. MAYOR SWARTZ of Columbus extended the

freedom of the city to its medical guests. The president, DR. JOSEPH M. MATHEWS of Louisville then delivered the president's address. DR. HOLTON presented the account of the Rush Monument Fund. Only three States, Colorado, New York, and Pennsylvania, have fulfilled the promise made two years ago to raise $2000 each. The District of Columbia has given $250, and just before the present meeting California presented $500. The amount of the fund now is $10,582. DR. GIHON, the last surviving member of the original Rush Monument Committee, sent in his resignation. The treasurer of the Association reported $33,760 received during last year. On December 31, 1898, $28,729 was in the treasurer's hands, besides $3000 in the sinking fund.

DR. FENTON of Philadelphia presented a set of resolutions demanding reform in the United States Army Medical Service that will bring it up to date in modern sanitary scientific aspects, and asking that the Association appoint a committee to wait on the President of the United States to this effect.[1] Similar resolutions were presented by the State Society of Georgia. A resolution offered by the State Medical Society of Pennsylvania that opticians are not qualified practitioners and must not be consulted with was referred to a committee for action later. DR. GEORGE M. GOULD of Philadelphia, Pa., presented a resolution providing that the *Index Medicus*, which is compelled under present circumstances to suspend publication, be taken in charge by the American Medical Association; that a suitable editor and corps of assistants to maintain it at its present high standard be appointed, and that the Association guarantee it financial support, not to exceed $3000 to be expended in any year. On motion the resolution was referred to the Board of Trustees for consideration and report next year.

SECTION ON PRACTICE OF MEDICINE.

FIRST DAY—JUNE 6TH.

The Chairman, DR. FRANK BILLINGS of Chicago, called the meeting to order in the Hall of Representatives. He said that an attempt had been made this year to present synopses in the program of the papers to be read. This was the first time that an effort had been made in any of the Sections to do this, and the fact that out of a total of eighty-three papers fifty-four abstracts had been submitted proved that the attempt had been successful. These published abstracts give members an opportunity to acquaint themselves with the subject matter and prepare themselves for the discussions. He desired that original research should be stimulated, especially in the line of clinical work. Reports of cases with full reports on the clinical findings, and, when possible, supported by thorough post-mortem examinations, would be of greater value than papers upon general subjects more or less theoretic in character.

DR. N. S. DAVIS of Chicago read the first paper, entitled

[1] See our Philadelphia Letter, page 735.

WHAT ARE THE PHYSIOLOGICAL PROCESSES OR FUNCTIONS THAT IMPART TO THE LIVING HUMAN BODY ITS VITAL RESISTANCE OR IMMUNITY TO THE ACTION OF TOXIC AGENTS TO WHICH IT MAY BE EXPOSED; AND HOW CAN THEY BE AIDED BY THERAPEUTIC AGENTS?

He said that it is plain that the natural processes or functions which impart to the dying human body its vital resistance, which constitute the *vis medicatrix naturæ*, are, first, the inherent power of selection and rejection possessed by each cell or organized mass of bioplasm of which the blood and tissues are composed; second, the oxidation by which tissue metabolism is effected; and, third, the excretory and eliminating processes by which the products of metabolism and other disturbing elements are attracted from the blood currents and passed out of the system. The vital resistance of any living body may be said to depend directly upon the activity and efficiency of these several physiological functions and processes. The active investigations of the last half century have pretty fairly demonstrated the important etiological fact that nearly all the acute general diseases or febrile affections are caused by toxic agents called ptomains, leucomains, or toxalbumins resulting either from pathogenic bacteria introduced from without or from the retention of excrementitious products of metabolic change within. Both experimental and clinical experience have shown that the external application of water in the form of baths or sponging not only diminishes the fever heat but also increases in a marked degree the oxidation and decarbonization of the blood and the elimination of the waste and toxic products by the kidneys and other excretory organs. Strychnin and digitalis directly increase the action of the respiratory and vasomotor nerves, thereby sustaining the important functions of respiration and circulation. And yet every well-devised experimental investigation has demonstrated that alcohol, chloroform, and ether in the system directly diminish the sensibility and action of the respiratory and vasomotor nerves in proportion to the quantity used, and also markedly record the oxidation and decarbonization of the blood and lessen both the activity of leucocytes and of normal metabolism, thereby placing the effects in direct antagonism to the effects of the other remedies given in conjunction with them. A large part of the prevailing skepticism regarding the curative effects of drugs has resulted from such coincident use of antagonistic agents and the frequent use of agents for the relief of some prominent symptom, while the ulterior effects are injurious to the natural processes of vital resistance instead of aiding the same.

DR. B. M. LINNELL of Chicago followed with a paper, entitled

A COMPARISON OF THE VARIOUS METHODS OF ESTIMATING HEMOGLOBIN.

The two instruments that are most used in this country are Fleischel's hemometer and Gower's hemocytometer. Sources of error are known (1) in color tests. Two eyes rarely agree in accurate estimation of varying shades of color. Eyes of the same individual vary at different

times, due to fatigue and the influence of varying intensities of light. (2) In adding water to dilute the hemoglobin one is apt to over-dilute the solution, thus making it necessary to repeat the test. (3) One cannot make a number of estimates of the same specimen and strike an average. The speaker drew the following conclusions: We need a system of estimating hemoglobin which will eliminate the necessary inaccuracies of color comparisons. Hammerschlag's method is mechanically accurate and eliminates the necessary errors of color comparisons. The errors made in taking the blood are common to both methods. The tests seem to show that the specific gravity varies with the percentage of hemoglobin. Variations under normal conditions in blood are not great enough to interfere with the value of the specific gravity test.

DR. JUDSON DALAND of Philadelphia agreed that so far as color tests are concerned all tests are objectionable. He referred to methods by which he could reduce a certain percentage of error in the use of Fleischel's instrument.

DR. GEORGE DOCK of Ann Arbor, Michigan, thought that the specific gravity methods are easy to carry out, but one should bear in mind that the specific gravities do not always correspond to the hemoglobin present. Gower's method is faulty.

DR. LAMBERT OTT of Philadelphia then read a paper, entitled

THE SPREAD OF DISEASES IN SCHOOLS AND ITS PREVENTION.

The diseases usually spread in schools, naming them in the order of frequency, are diphtheria, scarlet fever, measles, whooping-cough, varicella, and variola or varioloid. There are three common sources of danger, first, being in school during the inception and development of the disease; second, returning to school too early in the convalescence, or permitting children in the infected household to attend school; third, in daily attendance in school during a light and overlooked attack of contagious disease. The common means of contagion or contamination are by personal contact, inspiring exhalations, kissing, by the common use of the drinking cup, by exchanging working material, such as pencils, cleaning-rags, etc., by passing around from mouth to mouth a whistle or a mouth-organ. A grave question arises as to when children should be allowed to return to school during the convalescence of contagious diseases. The speaker's rule is as follows: (*a*) after diphtheria, four weeks from its inception, and after one week in the open air; (*b*) scarlet fever, four weeks from its inception, and after one week in the open air; (*c*) measles, two weeks from its inception, and after one week in the open air; (*d*) whooping-cough, not until every vestige of the cough has disappeared; (*e*) smallpox, two months from its inception, and after one month in the open air.

DR. ARNOLD of Boston referred to an attempt to correct the evil in schools in Boston. In 1894 there was started a system of school inspection. The city was divided into fifty districts and a medical examiner appointed for each district. During the first fourteen months 667,790 pupils were examined, of which number 6053 were not sick, and 10,737 were found to be ailing, of which number 2041 were ill enough to be sent home. Of these, 453 had some contagion and would have been a source of danger if allowed to remain at school.

DR. RAYBURN of Washington, D. C., advised not sending children to school before the age of seven years, on account of their greater susceptibility to contagion before that period.

DR. AXTELL of Denver spoke against the indiscriminate use of lead-pencils in schools. He had once suggested to a lead-pencil manufacturer that it would be a wise plan to incorporate in the black material quinin or some bad-tasting substance to prevent children carrying the pencils to their mouths.

DR. JOHN MUSSER of Philadelphia made a motion, which was carried, that a committee of three be appointed to bring this subject before the General Session for consideration. Dr. Ott was appointed chairman of this committee, with Drs. Axtell and Rayburn.

DR. T. N. MILLER of Rockford, Ill., read a paper, entitled

CEREBROSPINAL MENINGITIS.

Regarding the treatment of this disease he knew of no better remedy than ergot, combined with calabar bean, pushed to its full physiological effect. Bromids are less efficient. Bleeding is bad. While he did not consider opium the "sheet anchor of our hope," yet he could see that it is of great aid in all stages of the disease. Especially in the first three days of the disease he considered the iodids of paramount importance, both from their well-known effects in preventing suppuration and effusion into the ventricles, and also in softening of the brain tissue. He also used counter-irritation. Applications of ice he had never used for fear of the depressing effects upon the general circulation and blood stagnation.

DR. GEORGE L. EYSTER of Rock Island, Ill., followed with a paper, entitled

SOME UNUSUAL FEATURES OF EPIDEMIC CEREBROSPINAL MENINGITIS.

A clinical report of two cases of cerebrospinal meningitis of the markedly intermittent type, accompanied by mucopurulent discharge from the nasal cavities, in which were found large numbers of the diplococcus intracellularis meningitidis was made, with a description of the post-mortem findings.

SECTION ON SURGERY AND ANATOMY.

FIRST DAY—JUNE 5TH.

The Chairman, DR. W. J. MAYO of Rochester, Minn., opened the meeting by reading a paper, entitled

CICATRICIAL STRICTURE OF THE ESOPHAGUS AND ITS SURGICAL TREATMENT,

and said that the treatment of this condition has always been a surgical problem. The number of cases met with are so few that it is a rare condition, yet sufficiently frequent to stimulate our best efforts for its relief

Esophageal obstruction may be classified into, first, those located within the esophagus, as inflammatory strictures, etc.; second, pressure obstruction located without the esophagus, as in tumors involving the thyroid gland, etc. Cicatricial stenosis is the result of the healing of an ulcer which may be produced in many ways. The paper treated of the first of these two classes of cases. The diagnosis is usually easy, the clinical picture being generally a perfect one, and the diagnosis easily confirmed by the passage of bougies. The prognosis in those cases seen early is good. The treatment, briefly stated, is gradual dilatation every other day by bougies before the contraction begins if possible. All foreign bodies should be at once removed, and if the cause of the stricture be either syphilis or tuberculosis appropriate constitutional remedies should be employed. If the stricture be dilatable its treatment depends on its location; if in the vicinity of the cricoid cartilage external esophagotomy is the operation of choice.

DR. JOSEPH RANSOHOFF of Cincinnati then read a paper on

CONSIDERATIONS ON THE DIAGNOSIS AND TREATMENT OF GALL-STONES,

and said that little is known of the etiology, but perhaps excess of cholesterin in the bile is the cause, the nucleus around which they form being either of helmic or bacterial origin. The diagnosis is usually not very difficult, and the operation of choice should be cholocystotomy with the establishment of a biliary fistula. Out of forty-six cases only three deaths resulted.

DR. A. J. MCCOSH of New York read a paper, entitled

OBSERVATIONS ON THE TREATMENT OF GALL-STONES.

The surgeon generally sees these cases early in their course. The decision as to the best method of treatment is often most difficult. Distention of the gall-bladder will often occur when the cystic and common ducts are entirely free. Jaundice is not always dependent on the obstruction of these ducts. A stone in the common duct will not always cause distention of the gall-bladder, but instead it will shrivel up. In nine cases of operation for stone in the common duct in not one was there dilatation of the gall-bladder. In one case a stone the size of a goose-egg was found occupying the entire common duct. The stone was four and one-half inches in length and six inches in circumference. The gall-bladder and passages are very easily infected. This is proven by the fact that in nearly every case of typhoid fever there is an infection of the gall passages with the typhoid bacillus. It is often difficult to know when to stop palliative measures and to resort to surgical interference, which should not be put off too long. The longer the operation is postponed the greater becomes the mortality, and thus avoidable delay is fatal to the patient's chances. Cholocystitis often calls for operative interference, especially if there is no change for the better after a fair trial for a week or ten days of palliative measures. Repeated gall-stone colics is an indication for operative interference. Jaundice which persists may not be due to an impaction of a stone, and just when to operate is hard to determine. Timely operation should be performed in every case after a correct diagnosis has been made.

DR. W. E. W. DAVIS of Birmingham, Ala., then read a paper on

SURGERY OF THE COMMON BILE DUCT.

The surgery of the biliary ducts is still in its infancy. After reviewing the etiology, symptomatology, and treatment, he said in conclusion that cholocystotomy with drainage is the ideal operation. Sutures, as a rule, are not necessary, and in many cases are a distinct disadvantage.

DR. H. O. WALKER of Detroit opened the discussion on these papers and said that there is no necessity of draining in these cases. The purse-string suture answers every purpose and unless there is distinct indication for drainage it should not be employed.

DR. BEVIN of Chicago said he believed the majority of gall-stones are mycotic in origin, and they have been artificially produced in the French laboratories. The best incision for ordinary cases is one through the rectus muscle, enlarging it if necessary at either or both ends to an S shape.

DR. R. T. MORRIS of New York said that he generally closes up the gall-bladder by a purse-string suture.

DR. MURPHY of Chicago said that all his experience proves that early operation is most important in the treatment of these cases. The diagnosis should be promptly made and the operation follow soon after, especially when there is high temperature and evidences of systemic infection.

DR. FERGUSON of Troy, N. Y., said that there is no way of determining when the biliary tracts are entirely free from stones and that the best method of treatment is by drainage.

DR. PORTER of Fort Wayne, Ind., said there are two objections to the immediate closing of the gall-bladder: first, because in many cases permanent drainage for a long time is necessary to effect a cure; and second, one can never determine when the common duct is free from disease.

DR. WARNER of Columbus said he believes in early operation as it is accompanied by a lower mortality. The use of olive oil is a relic of barbarism and ignorance and it is an absolutely useless method of procedure.

DR. RODMAN of Philadelphia said that out of 106 cases in which he had operated only one was in a full-blooded negro.

DR. MOORE of Minnesota said there are many cases of cholocystitis in which gall-stones are a causative factor, especially as a secondary condition to the mycotic diseases.

DR. MARSHALL of Boston advocated the primary closure of the wounds in either gall-bladder or duct, and also the closure of the skin incision without drainage.

DR. MARCUS DAVIS said he had had one case of distention of the gall-bladder in a full-blooded negro.

DR. RANSOHOFF, in closing, said that but little is known of the etiology of gall-stones in the human being except that they often follow typhoid fever.

DR. A. J. ACHSNER of Chicago followed with a paper, entitled

APPENDICITIS AS A CAUSE OF INFLAMMATION OF THE RIGHT OVARY AND TUBE,

and after reviewing, at great length, the literature of appendicitis, said that he was convinced that many cases of inflammation of the right ovary and tube are secondary to a primary infection of the appendix. This is especially true in those cases in which the lesion in the appendix goes on to abscess formation. The differential diagnosis is difficult and oftentimes impossible. In 103 cases in which he removed the appendix, 53 were in females and 15 had a secondary involvement of the tubes and ovaries. In conclusion he thought that appendicitis is a frequent cause of tubal and ovarian disease, both acute and chronic, and the exact origin of every case of this character should, if possible, be determined.

DR. JOHN B. DEAVER of Philadelphia then read a paper, entitled

COMPLICATIONS AND SEQUELÆ OF APPENDICAL ABSCESS.

Of all complications of appendicitis the most frequent and fatal is peritonitis. When general this is not amenable to successful treatment. In not a single case of general peritonitis in his experience had operation proved successful, despite the fair trial of every form of treatment. This condition when present is an absolute contraindication to operation. Constitutional septic infection as the result of appendical inflammation may present clinically the appearance of typhoid fever and be difficult of diagnosis. Secondary abscesses of the peritoneum more or less localized by adhesions are not infrequent. The hepatic complications are of extreme interest and importance, and abscess of the liver, either single or multiple, may so mask the symptoms of the primary infection that only by the post-mortem examination is the surgeon made aware of the pyogenic focus in the appendix. Extension may also occur from the liver to the pericardium or pleuræ and demand operative interference for its relief. That metastatic abscesses may form in the liver, lungs, spleen, or kidney is often proved by post-mortem examination. Complications nearer the source of infection are iliac phlebitis, or rupture into one of the hollow viscera,—the intestines, the bladder, or the pelvis of the kidney. The abscess may be part cecal, or it may involve the post-peritoneal connective tissue. Appendical pus may occur in a terminal sac, or it may be a serious complication of pregnancy. Its effect upon the reproductive organs of the female are most serious. The bladder wall and the sigmoid are here perforated and the organs covered by dense quantities of exudate in which are localized abscesses. These complications of the disease are just so many strong reasons for early operative interference. If this be resorted to the seat of inflammation is removed before there is time for pus formation, and thus the terrible ravages produced by appendical pus, no matter what its situation, are prevented.

DR. ROBERT T. MORRIS of New York followed with a paper on

BAD METHODS IN APPENDICITIS,

and said that sociological conditions are of great importance. Especially bad is the practise of surgeons who make too favorable statements in regard to this disease, particularly in lay journals. The best method of treatment is immediate operation, and it should never have a higher mortality than 1 or 2 per cent.

DIAGNOSIS AND TREATMENT OF APPENDICITIS, WITH REPORT OF ONE HUNDRED CASES

was the title of the next paper by DR. W. J. MEANS of Columbus. He said that he had treated 112 cases of appendicitis, 8 by operative measures. Two of these patients died. The remaining 30 patients were treated medically and only 1 died. Appendicitis is essentially a surgical disease. The medical treatment gives relief, never a permanent cure. The only question to be decided is as to the most opportune time to operate. This cannot be settled by fixed rules. Each case must be treated on its merits, but a good working rule is to operate in every case just as soon as the diagnosis is made.

DR. W. W. KEEN of Philadelphia opened the discussion and said that a general purulent peritonitis meant to him an absolute indication for immediate operation. These cases are not all without hope, for in five cases in his experience which were apparently hopeless an operation resulted in a cure. It is not right to lay down a general rule that every man must operate on every patient ill with appendicitis, but every case must be treated as its symptoms demand.

DR. J. B. MURPHY of Chicago said that though cases might be mild for the first twenty-four hours no man can say how long they will remain so, and therefore it would seem to be best to remove the appendix while there is yet time, and so operate within the first twenty-four or at least in the first forty-eight hours.

DR. GRANT of Denver, Col., said that the mixed method of treating appendicitis has a higher mortality than 2 per cent. Each case must be treated on its merits, and operation in the first twenty-four hours gives the best chance and will give a much lower mortality.

DR. MCARTHUR of Chicago said that he had operated on 137 patients with appendicitis in the interval between attacks and in not one of them was there a fatal result.

DR. JOHNSON of Hartford said that he had performed more than 100 operations on diseased appendices without a death.

DR. GRAHAM of Chicago said that he was governed by the circumstances of the case and not by any set rules of procedure.

DR. ERNEST LA PLACE of Philadelphia said there is no fixed rule to go by. In the majority of cases prompt operation offers the best chance of life.

DR. PORTER of Fort Wayne said that he had seen patients with general purulent peritonitis recover and that operation gives them their only chance.

DR. A. J. OCHSNER of Chicago said that he has had many cases of general purulent peritonitis in which the patients were treated by opening the abdomen, but they all died. He now treats them by stopping all food by

the mouth, but feeds them by enema; cold is also applied to the abdomen. He has treated quite a few patients by this method, with very satisfactory results.

DR. DEAVER, in closing, said that he wished to repeat that he never had seen a case of general purulent peritonitis in which recovery took place. It is impossible to lay down any general rule of procedure until the belly walls are made transparent and one can see just what is going on in the abdomen. It is not right for inexperienced men to attempt to remove appendages, as it is a most difficult and serious operation.

DR. EMIL RIES of Chicago then read a paper on

SOME RADICAL CHANGES IN THE POST-OPERATIVE TREATMENT OF CELIOTOMY.

He gets his patients out of bed twenty-four hours after vaginal celiotomy, and they leave the hospital in four or five days. Large doses of salts are not given on the morning subsequent to the operation, the bowels being generally left to Nature. The patients, instead of being starved on liquid diet, are fed on meat, bread, etc., just as soon as peritonitis is found to be absent, at the end of twenty-four hours. The same after-treatment is followed after laparotomies.

DR. T. H. MANLEY of New York said that the paper was a most valuable contribution to our knowledge and is a distinct advance in surgical science.

DR. F. H. WIGGIN of New York said he had had a similar experience to the one detailed by the author of the paper, in which the patient left her bed for a few minutes ten hours after a laparotomy and no bad results followed.

SECTION ON GYNECOLOGY.

FIRST DAY—JUNE 6TH.

The meeting was called to order at 2 P.M. by DR. W. D. HAGGARD, JR., the secretary.

The Chairman, DR. A. H. CORDIER of Kansas City, Mo., then read his address and said in part: The supreme benefit of this annual meeting exists in the remembrance of the priceless works of those who attend and enter into these discussions.

One of the most important subjects coming before this Section is that of cancer of the uterus. The early detection of a gonorrhea and its proper management by the necessary local treatment and the avoidance of intra-uterine sounding has materially reduced the number of tubal and ovarian specific diseases. In all cases of ectopic pregnancy operation should be performed as soon as the diagnosis is made, unless in the latter months of pregnancy.

The subject of most importance to the Section in the line of infective processes is puerperal fever. The use of immunizing and curative doses of the streptococcic serum obtained from animals infected by a number of different streptococci, as in the laboratory of Louvain, has been the latest effort for cure in this direction. Credé ointment of silver in the treatment of puerperal sepsis has been remarkably successful.

PELVIC TUBERCULOSIS

was the title of a paper read by DR. AUGUSTUS P. CLARKE of Cambridge, Mass. The sources of contamination of the serous tissue are numerous, the principal avenues of entrance being from the intestinal tract. The adhesions of the intestines with the Fallopian tubes, and the subsequent ulceration or perforation of the united surfaces furnish one means by which the bacilli reach the adnexa. In many cases tuberculosis of the genital tract occurs in connection with the general dissemination of the disease of the other organs. This not infrequently takes place in childhood and before puberty. Tubercular lesions of the adnexa originating through the general blood-supply cannot be regarded as a common process. The forms of tuberculosis of the Fallopian tubes may be reduced to the miliary and the fibroid varieties; in the former the disease may remain latent for varying periods. Here a mere abdominal incision may be followed by apparent recovery, though it is not safe to regard such recovery as permanent. The chronic form of fibroid tuberculosis may become arrested or end in recovery.

The general infection of the organism from extraneous sources has undoubtedly been the more frequent mode of the inception of pelvic tuberculosis. Tuberculosis of the Fallopian tube has in many cases supervened upon catarrhal salpingitis. As stated by Williams and others, tuberculosis of the uterus, ovary, or Fallopian tube, must be regarded as secondary to primary areas of infection. In all cases of doubtful character the purulent exudation of the vaginal and uterine tissue should receive repeated microscopic examinations. When an exact diagnosis cannot be reached an abdominal incision may be demanded for the relief of symptoms.

DR. HOWARD A. KELLY of Baltimore said that a large percentage of our gynecological work is in this condition, and, therefore, the subject is most important. He felt sure that the condition has nothing to do with coitus. The disease localizes itself in the tubes. It is, however, found in the uterine body in a much larger percentage of cases than is commonly believed. As in tubercular disease elsewhere we ought to remove all diseased tissue. He had in two instances, however, been compelled to leave the diseased tubes, and both the patients recovered. He thought that when one opens the abdomen in tubercular cases one ought to examine the extent of the lesions, and determine how far the disease extends over the peritoneum.

DR. E. E. MONTGOMERY of Philadelphia said that he wished to put on record a case in a young girl, aged thirteen years, in whom there was tubercular disease of both ovaries and tubes. There was no involvement of the peritoneum beyond these organs. A singular feature of the case was that the girl had a tumor, apparently of the bladder, which, upon careful investigation through the urethra, was found not to involve the internal surface of the bladder. Upon opening the abdomen for the removal of the tubes, which was the first intention in the case, it was found that the tumor of the bladder was attached to its peritoneal surface, and contained a diverticulum from the bladder. The patient had been suffering for some time from inability to retain her urine. As the

peritoneum covered the surface nothing was done but a removal of the tubes and ovaries, and subsequently the bladder was distended by irrigation. Under this treatment she was able to retain her urine for at least three hours, and was much relieved. She has continued to gain in health since the removal of the diseased organs.

DR. A. GOLDSPOHN of Chicago said that he agreed with Dr. Kelly in the remark that tuberculosis of the tubes is more frequent than we have thought. He was not willing to say that the uterus should be removed when tuberculosis is found in the adnexa. The better part of operating in gynecology is to preserve the female organs, particularly in young persons, to the extent that the individuals will menstruate. As we strive to the utmost to save the uterus and a part at least of one ovary for this purpose, it seemed to him that it is rather indicated to leave the uterus and half of the ovaries even when the tubes are removed.

DR. C. C. FREDERICK said that the question of tuberculosis of the uterus and adnexa and the remarks of Dr. Kelly with reference to leaving some of the tuberculous organs in situ led him to speak of a case that he had had for about five years in a young woman who was tubercular. He removed both ovaries and uterus. Whether the cervix and the glands outside were diseased or not she made a good recovery. Subsequently there was a localized tuberculous abscess on the left side which he opened through the vagina, and which has continued to drain despite all efforts that he had been able to direct against the tuberculous process, and she now has developed general pulmonary tuberculosis.

DR. C. E. RUTH said that about four years ago he had operated upon a colored woman for a forty-pound ovarian cyst. The peritoneum was thickly studded with tubercular deposits. He simply ligated off the entire omentum and removed the tumor. The patient did well and seemed to be none the worse for the loss of the omentum, but died last winter from pulmonary tuberculosis.

DR. CARSNER said that tubercular deposit is often limited to the appendix exclusively, and certainly does not come from the vagina and tubes, which shows beyond any doubt that tubercular deposits in the peritoneum will not spread from the vagina and reach the peritoneum in that way. He agreed with Dr. Goldspohn, that it is not necessary to remove the tubes. For simple tubercular peritonitis he simply irrigates, and if there is degeneration he removes the organs.

DR. J. F. W. ROSS of Toronto said that he had found the disease to be more frequent in young unmarried women in whom there was no question of coitus, and therefore it does not come from the vagina. A cure by abdominal operation is among the marvels of our work.

CHOLECYSTECTOMY.

In a paper with this title DR. CLINTON CUSHING of Washington, D. C., said that for the purpose of the paper it would be assumed that the gall-bladder is not necessary to the health or well-being of the individual, for many cases are on record in which the gall-bladder has been removed and the patients have remained in perfect health. Investigation has shown that it is of no value to the digestive function. If the gall-bladder is so seriously diseased as to warrant surgical operation for its relief, it is better practice to remove it in toto than to leave it in place for the further accumulation of gall-stones or as a point for setting up new inflammations. Like the vermiform appendix the gall-bladder is a cul-de-sac, and having been once diseased is likely to become diseased again.

DR. DAVIS of Birmingham, Ala., said that one argument against the removal of the gall-bladder is that it is difficult to determine when the common duct is free. If one ties off the gall-bladder, one subjects his patient to great danger. If, on the other hand, cholecystotomy is performed the patient is put in the condition that the surgeon can perform the other operation later. The operation advocated by Dr. Cushing, he thought, is the one to adopt in case of marked disease of the gall-bladder. In his opinion but little advance has been made in gall-bladder surgery since the operation devised by Sims, except that the gall-bladder should be attached to the peritoneum.

DR. SUTHERLAND of Nebraska said that a great mistake is made in the early treatment of these cases by giving sedatives for the relief of paroxysms. He recently had three patients to whom he had given doses of sweet-oil internally, 8 ounces at each dose, two doses, four hours apart. In this way he had removed gall-stones almost double the caliber of the duct. The stones were passed about twelve hours after the first dose of oil. One is too prone to give hypodermic injections of morphin and allow these stones to remain.

A NEW OPERATION FOR THE CURE OF UTERINE RETRODISPLACEMENTS

was the title of a paper by DR. C. E. RUTH of Keokuk, Iowa. An incision is made at or near the median line above the pubes. The length of the incision depends upon the thickness of the abdominal wall. The uterus is brought forward and a large, ordinary, full-curved needle, or, if the operator prefers, a needle with the eye at the point, armed with a full-sized kangaroo tendon is passed under the peritoneum directly across the anterior surface of the uterus, then along the interior of the round ligaments, or when they are absent or practically so, simply along the interior of the peritoneal fold, which represents the course of the round ligament. When the abdominal ring is reached the needle no longer follows the round ligament but pierces the abdominal wall directly opposite the ring and emerges through the skin in contact with Poupart's ligament, near its middle, on one or the other side. The needle is now unthreaded, the end of the tendon split, say two inches, one-half is again threaded into the needle and passed under Poupart's ligament and the opposite side of the same, and the ends are next tied together over the ligament. The long, round ligament will thus be thrown into numerous folds and convolutions as it is taken upon the running thread.

The life of this material is at least two months and if

necessary it might probably be made longer. The operation does not expose denuded traumatized surface, and troublesome adhesions are not formed; it does not introduce any foreign material permanently; it enables the natural supports to take up the work successfully; it gives the desired position to the uterus; it leaves the uterus with ample mobility; it does not interfere with the development of any part of the uterus; it is quickly done and gives every opportunity for dealing with any ovarian, tubal, or uterine pathology with but a single wound.

WHY VAGINOFIXATION AND VENTROFIXATION AND SUSPENSION OF THE UTERUS SHOULD BE AVOIDED IN WOMEN WHO RETAIN ANY CAPACITY FOR CONCEPTION

was the title of a paper by DR. ALBERT GOLDSPOHN of Chicago. He said that these operations are unnatural, unsurgical, and unscientific. The wide range of the body of the uterus, which is so necessary, is secured chiefly by the total absence of all connections or attachments to its vertex and its anterior or posterior surfaces. Therefore the thought of opening the abdomen and inflicting fixation upon any one of these surfaces destined to be free and thereby limiting the normal mobility of the body of the uterus in some degree is repugnant to every rational instinct.

There are other surgical expedients quite generally available that are entirely within the domain of normal anatomy and physiology, that help Nature, and are assisted by Nature because they exercise a parallelism and no antagonism of forces. The only normal structures that exist and can be consistently made use of are the round ligaments of the uterus. They may be dealt with (1) by median ventral celiotomy; (2) by anterior median, vaginal celiotomy, and (3) by way of the inguinal canal.

The original Alexander operation, greatly modified and improved, is the only operation practised or proposed that not only does not borrow from things pathological and antagonistic to Nature, as do all ventral attachments, and does not create obstacles to gestation or labor, but also guarantees against a return of the retroversion afterward, provided that the operation is properly performed. And when this modern Alexander operation is combined with inguinal celiotomy by way of the temporarily dilated internal inguinal rings, for the severing of adhesions, for the resection or removal of diseased appendages, and for the permanent restoration of descended ovaries to their normal locations, it most nearly fulfils the highest ideals now entertained.

DR. C. C. FREDERICK of Buffalo, during the discussion of this paper, said that after some experience with ventrofixation, and discarding it because he feared it from the experiences of others, he since had had a number of cases of pregnancy following the operation, and none of the patients aborted and none suffered inconvenience. All went successfully through labor, and all have had an anteroposterior position of the uterus after labor, with no pain or distress. He never performs ventrofixation unless it be to sustain the uterus in cases of paralysis. He has removed the tubes and ovaries in women only who have passed the menopause. He has either shortened the round ligaments or performed the modified Alexander operation.

DR. ROSS of Toronto said that he had very pronounced views on this subject. He believes the operation of ventrofixation to be anatomically and physiologically unsound. The statistics presented by Dr. Goldspohn convinced him that his own views were correct. The large number of cases in which difficult labor and intestinal obstruction has been found to be the result of this abnormal position of the uterus, show conclusively that if the Creator intended the uterus to have a ligament in that place He would have put it there. The mechanism by which the uterus is suspended is perfect. The Alexexander operation has been too highly estimated in the opinion of Dr. Goldspohn. There are other operators who have given us adverse opinions regarding its benefits. Cases have been reported in which hernia has followed it. The only method which meets with his entire approval is the intra-abdominal shortening of the round ligaments, an operation which apparently is not entirely free from danger. He had had one melancholy experience with it within the last year. He considered that many of the young girls operated upon do not require any operation at all, and that the symptoms are not due to the flexion of the uterus.

SECTION ON DISEASES OF CHILDREN.

FIRST DAY—JUNE 6TH.

DR. HENRY E. TULEY of Louisville, Ky., Chairman.

DR. ERNEST WENDE of Buffalo, N. Y., read a paper, entitled

THE DEATH-DEALING LONG-TUBE NURSING-BOTTLE.

He has demonstrated by bacteriological experiments that it is impossible to clean the tubes of nursing-bottles. The rubber is affected by microbic action, cavities occur in it, especially near joints, and the rubber itself acts as a culture medium. Used tubes left in an incubator for twenty days become disintegrated by the action of the infecting bacilli, and in some cases liquefied, while control-tubes were practically unchanged. These changes in the substance of the rubber make all attempts at cleansing illusory.

In the discussion DR. NORBURY said that the same thing holds good in the case of rubber nipples. The surfaces to be cleansed are easier to reach, but unevenness caused by microbic action and the growth in the substance of the rubber make bacteriological cleanliness practically impossible.

DR. WENDE said that the prohibition of the long-tube nursing-bottle in Buffalo has cut the infant death-rate in two. Eight out of ten of the deaths in children that formerly occurred were in infants using the long-tube bottle.

DR. E. H. MCCLANAHAN of Omaha, Neb., read a paper, entitled

CONSTIPATION IN INFANTS.

For this there are two causes, diet and anatomical conditions. Dietary constipation is due to too little fat and too much casein. Fat should be added to the milk or if

the stools are light-colored and dry, showing too much casein, that element should be reduced and the milk peptonized. A spoonful of maltine is a good corrective under these circumstances. Of drugs, two are worth noticing, podophyllin and phosphate of soda in combination with orange-juice. For atonic intestinal conditions the insertion of the finger into the anus is not only of diagnostic value, enabling the physician to assure himself that no abnormality is present, but is also a valuable therapeutic measure, stimulating peristalsis. The greased index-finger may be introduced up to the sigmoid flexure. External massage is of great service in these atonic conditions.

DR. C. G. SLAGLE of Milwaukee, Wis., said that chronic constipation in children is often due to the use of such teas as fennel or anise, given as supposed stomachics or colic-cures, or to the abuse of laxative remedies whose after-effect was astringent, or to opiates and patent nostrums for colic. These causes must be guarded against.

DR. BARNES of Washington, D. C., said that the mother may form the child to habits of regular defecation very early in life. For this the use of simple suppositories is a great help.

DR. J. A. WORK of Elkhart, Ind., insisted on the necessity for loose clothing if the child is not to be constipated.

DR. GARRISON suggested that more water must be added to the food of constipated children, but that if plain water be given it is excreted by the kidneys; if some salt be added, for example, bicarbonate of soda, it affects the intestinal excretion favorably.

DR. FRANK X. WALLS of Chicago then read a paper, entitled

SO-CALLED CONGENITAL OBLITERATION OF THE BILE-DUCTS.

This affection is usually fatal, and is due at times to an anomalous development of the biliary tract, at times to adhesive angiocholitis. Catarrhal icterus is very rare in children, but when it occurs the serious form should be thought of at once, and if the affection does not yield promptly to treatment operative interference should be considered. The disease is commoner than the statistics indicate and its treatment is surgical rather than medical.

SECTION ON MATERIA MEDICA AND THERAPEUTICS.

FIRST DAY—JUNE 6TH.

The section was called to order by the Chairman, DR. L. L. SOLOMON of Louisville, Ky.

DR. JOHN A. CUTTER of New York read a paper on

NON-DEPRESSANT ANALGESICS.

The paper was an enthusiastic advocacy of ammonol, and met with a severe handling by the members of the section on the ground that the article recommended was proprietary.

DR. C. C. HERSMAN of Pittsburg then read a paper on

PARALDEHYD AS A HYPNOTIC AND AS AN ANTIDOTE TO STRYCHNIN.

The author recounted some animal experimentation tending to establish the efficacy of the drug as a hypnotic and an antidote to strychnin.

SOME THOUGHTS ON URETHRAL THERAPY

was the title of a paper by DR. T. A. HOPKINS of St. Louis. He spoke of the use of argonin, commending it for its analgesic and therapeutic effects. This drug, being proprietary, the paper aroused the displeasure of the listeners, and the discussion of proprietary drugs in general which followed was exceedingly warm.

DR. LOUIS F. BISHOP of New York then read a paper on

THE USE OF ACETANILID IN VARIOUS COMBINATIONS AS A SUBSTITUTE FOR MANY PROPRIETARY DRUGS AND MIXTURES.

It is better to know one drug well than many superficially. For a long time he had prescribed acetanilid in combination with such drugs as seemed to him synalgesic in the condition to be met. Acetanilid is not soluble, but is readily suspended in syrupy mixtures, so that it can be combined with ammonia in any of its forms, salicylic acid, nux vomica, digitalis, codein, creosote, potassium bromid, or indeed almost any drug, and a prescription obtained that can be much more accurately adapted to the case in hand than any of the ready-made combinations. The foundation of most of the coal-tar product combinations is acetanilid, which has been combined with bicarbonate of soda, caffein, carbonate of ammonia, etc. The combination may be chemical or mechanical, it matters little which as it is practically broken up in the body into the acetanilid radicals and the other constituents. It is much more professional and scientific to write for the mixture than to be slaves to a proprietary combination. Perhaps the most generally useful combination of acetanilid when used as an analgesic is the migraine tablet. This is the equivalent of several of the most widely used secret mixtures that are sold under a specific name. It consists of 2 grains of acetanilid and ½ a grain each of caffein citrate and monobromate of camphor. A useful combination that can be prescribed in capsule is acetanilid and quinin, 1 grain of the former and 2 of the latter. This makes a good adjuvant to other treatment in cases of coryza. In rheumatic conditions, and those in which there is a suspicion of intestinal fermentation, acetanilid and salol make a good combination in capsule. For disturbances of circulation and neuroses attending the menopause 2 grains of acetanilid and 15 grains of bromid of sodium are efficient when combined in a dram of simple elixir. When repeated sufficiently often in this form it acts as an efficient hypnotic. Acetanilid is a useful addition to mixtures for the relief of acute indigestion attended by flatulency and great distress immediately after meals. As a substitute for iodoform and a host of antiseptic dusting powders, acetanilid has been found most efficacious, especially when combined with boric acid. What is needed by the profession to-day is a better knowledge of the drugs it is using.

GENERAL SESSION.

SECOND DAY—JUNE 7TH.

The Chairman of the Committee of Arrangements made the announcement that on Thursday a memorial floral service would be held at Camp Chase cemetery, where 2500 Confederate soldiers, who died as prisoners of war here, are buried. He said that the object of the service is to show the rising generation that we are a united people. The announcement was received with enthusiastic applause.

A resolution from the Legislative Committee, suggesting the appointment of three members of the Association, one from Philadelphia, one from Baltimore, and one from Washington, to oversee all matters of medical legislation that shall come before the National Legislature, was referred to the Executive Committee.

A resolution from the County Medical Society of Philadelphia, recommending the creation of a National Bureau of Health, with a cabinet minister at its head, presented last year, was reported favorably from the committee to which it had been referred, and was adopted by the Association as the expression of its opinion. A committee was appointed to take what action it deemed necessary in furtherance of this object.

The committee to which the subject of the modernization of military sanitary science in the United States Army, as suggested by a committee from Philadelphia, had been referred, reported in favor of the appointment of a committee, not to present the matter to the President of the United States, as originally suggested by the Philadelphia committee, but to memorialize Congress, and take such other steps as would be deemed necessary. This committee will consist of one member from each State and Territory.

On recommendation of the Georgia State Medical Society a resolution to the effect that the rank of Surgeon-General of the United States should be raised to that of Major-General was adopted amid great applause.

A resolution reccommending the appointment of women nurses for the army was adopted on favorable report by the committee to which it had been referred.

DR. FLOYD B. MCRAE of Atlanta, Georgia, then delivered the address on surgery. He stated that he had decided to follow the example of some of his predecessors and not attempt a general review of the progress of surgery for the year, but to discuss only some points in the surgery of the alimentary canal. He called attention to the use of normal salt solution, saying the surgeon who would fail to give his patient the benefit of this valuable agent after a prolonged or bloody operation would be as much to blame as one who would knowingly place his patient in bed with bleeding vessels.

He called attention to the value of rubber gloves in diminishing the danger of wound-infection by the hands of the surgeon and his assistants, and gave Halsted and McBurney credit for their scientific and practical work in this field of research. He called attention to the fact that bacteriologic investigation has repeatedly shown the impossibility of absolutely sterilizing the hands. The micro-organisms of the deeper layers of the skin gradually find their way to the surface during operations requiring prolonged manipulation, and while this source of infection by surgeons who take care of their hands and clean them thoroughly must be small, it deserves consideration.

Mention was made of the four cases of complete gastrectomy now on record, namely, by Schlatter of Zurich, Bingham of San Francisco, Richardson of Boston, and McDonald of San Francisco. Attention was called to the post-mortem findings in Schlatter's case, which showed that there had been no dilatation of the upper part of the intestinal tract to take the place of the stomach which had been removed, and that death had been due to general infection and not to inanition from removal of the stomach. Further attention was called to the fact that the cases must be very few indeed that would justify the operation of complete gastrectomy. He designated the Roux gastro-enterostomy as an original procedure that has received the highest professional commendation, and gave a detailed description of the operation with illustrations. He acknowledged indebtedness to Dr. Coley in "Progressive Medicine," Vol. II., for the description and illustrations of the operation.

Attention was called to the new impetus given to the discussion on penetrating wounds of the abdomen by reports of the cases of gunshot wounds of the abdomen received during the late war with Spain in which the patients had recovered without surgical interference. He does not believe that these cases should be taken as a guide in civil practice on account of the great difference in the character of the wounds and the conditions under which the injuries were received. He claimed that in civil life practically the only hope is in prompt and thorough surgery, and that no time should be wasted in waiting for definite signs of hemorrhage or peritonitis, or in the application of the hydrogen-gas test, which has only an affirmative value.

Carefully prepared statistics were presented of 107 cases of typhoid perforation, in which the patients had been subjected to operation, with a total mortality of 79.4 per cent. The table showed a greater tendency to recovery when the perforation occurred late in the disease. It is reasonable to expect twenty-five to thirty per cent. of recoveries in operative cases, when operation is undertaken within twelve hours after the occurrence of the perforation.

In discussing the treatment of appendicitis he said it seemed manifestly wrong and unscientific to lay down dogmatic and inflexible rules for the treatment of a condition so protean in type. The time at which the diagnosis is made is very variable and the advice to operate as soon as the diagnosis is made is exceedingly indefinite. The diagnosis of appendicitis is not always promptly made. Every surgeon who sees much of this disease knows as a matter of fact that many cases have gone beyond the time for early intervention when first seen by him. The question of intervention or non-intervention, in all cases, can only be settled by the compilation of fair and impartial statistics from both medical and surgical sources, statistics that are definite in all essential details.

STATE MEDICINE.

On motion, the report of the Board of Trustees was omitted for the day, and made the first order of business for Thursday morning.

(To be Continued.)

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ORIGINAL ARTICLES.

PROGNOSIS IN CHRONIC VALVULAR AFFECTIONS OF THE HEART.[1]

BY N. S. DAVIS, JR., M.D.,
OF CHICAGO;
PROFESSOR OF PRINCIPLES AND PRACTICE OF MEDICINE AND OF CLINICAL MEDICINE IN THE NORTHWESTERN UNIVERSITY, ETC.

THE old, constantly recurring question, What is the prognosis in chronic valvular disease of the heart? was brought freshly to my mind by happening to have, at the time your secretary asked me to prepare a paper for this society, several cases under observation which illustrated well some of the varying conditions upon which a prognosis must be based.

While preparing this paper the records of 250 cases observed in my private practice have been studied and the statistics quoted have been obtained from this source.

Most laymen anticipate sudden death when they learn that they have heart disease. Such was the expectation of physicians in the first part of this century. It is now known that sudden death from chronic valvular disease of the heart is the exception, not the rule. It is to be looked for only in cases of aortic regurgitation. According to Broadbent's statistics death occurs suddenly in about one-quarter of these cases. One sudden death also occurred in eleven of his cases of aortic stenosis. According to other observers it is very rare in the lesion of stenosis and is almost unknown in mitral lesions.

By sudden death is meant death instantly, without apparent aggravation of symptoms, or within an hour or two after the fatal symptoms manifest themselves. When angina pectoris complicates aortic regurgitation the danger of sudden loss of life is much increased. If the valvular lesion develops in one who has general arteriofibrosis a sudden demise is much more probable than if the lesion has been produced by rheumatism or an infectious disease. In other words, sudden death in these cases is not due as much to the valvular lesion as to the very frequent coincident pathological state of the coronary arteries or coronary circulation.

When a valvular lesion actually exists perfect recovery is possible. Anatomical recovery is rare, in a sense is impossible, but physiological recovery is not uncommon. If a murmur is constantly heard in one of the valve areas on the chest an anatomical defect surely exists, although the heart is not demonstrably changed in size, performs its functions perfectly and the general condition of the patient is one of health. If a murmur which has been persistent for weeks and has been associated with hypertrophy of the heart disappears, and the hypertrophy gradually lessens, the heart can be said to have recovered both physiologically and anatomically. Such apparent anatomical recovery is usually due to a slow stretching of one valve-curtain to compensate for the slight defect in another. It very rarely happens, if it ever does, that the chronic thickening, roughening, or contraction of a diseased valve disappears entirely. Therefore, even when clinical evidences point to an anatomical recovery, it cannot be said to be perfect.

My own experience with cases of apparent anatomical recovery makes me skeptical of its completeness and permanence. I have observed it twice in cases of mitral regurgitation of rheumatic origin. These patients were under observation for several years and it was found that whenever the heart's rate was increased from transient and moderate fever or violent work, the murmur would temporarily reappear. A third case, now under observation, came to me with broken compensation and mitral regurgitation of moderate extent. As compensation has improved the murmur has grown fainter. When the patient was last examined it was inaudible except when arterial pressure was increased by raising his arms or causing him to make hurried movements.

Apparent anatomical recovery only occurs in valvular insufficiency. It has been observed both in aortic and mitral affections. That this must be so becomes apparent when the nature of the lesions producing stenosis is recalled. A narrowed orifice does not stretch and cannot be compensated for. If stenosis is due in part to protruding vegetations these may break off and thereby lessen the degree of stenosis, providing they do not then cause fatal embolism. Moreover, stenosis is apt to be a progressive lesion.

Germain See is quoted as declaring he had never seen aortic lesions perfectly recovered from. Mitral insufficiency he believed incurable, but mitral stenosis, even when it was accompanied by persisting dyspnea and edema he had seen improve and ulti-

[1] Read at the sixteenth annual meeting of the American Climatological Association, held at New York, May 9, 10, and 11, 1899.

mately physiological recovery become perfect. As regards aortic lesions my experience accords with this statement. I do not now recall a case of aortic disease in which rapid beating of the heart or dyspnea on exertion or other evidence of lack of compensation did not exist. But I have seen most perfect compensation in both mitral lesions.

The chance of moderate, one cannot say of average, longevity is good in chronic valvular disease providing compensation is perfect. There are, however, certain symptoms and conditions which make it possible to predict the relative duration of compensation. It is generally said that if the lesion is one of mitral insufficiency the chances of longevity are greatest; and are relatively less for the other valvular lesions in the following order: Mitral stenosis, aortic stenosis, aortic insufficiency. Walsh and others reverse the order of mitral and aortic stenosis.

Of thirty fatal cases of which I have records the average age at death was fifty years for mitral stenosis, forty for mitral insufficiency, and thirty-six for both aortic stenosis and insufficiency.

Stillman[1] says the percentage of deaths from heart disease among 5000 insured persons is 1.84 between the eighteenth and twenty-ninth years, 3.97 between the thirtieth and thirty-ninth, 5.1 between the fortieth and forty-ninth, 8.9 between the fiftieth and fifty-ninth, 13.3 between the sixtieth and sixty-ninth, and 12.6 between the seventieth and seventy-ninth years. The progressive increase in mortality is marked and runs almost parallel with the mortality from urinary diseases and apoplexy given in the same tables.

Of those of my own cases of which the duration of compensation could be determined with reasonable accuracy, it was found that in mitral insufficiency it averaged 5.1 years, in mitral stenosis 11.5 years, in aortic stenosis 7 years, and aortic insufficiency to 2.3 years. The range of duration in 31 cases of mitral insufficiency was from three months to seventeen years. Seven patients lived with good compensation one year, 5 two years, 4 three years, 3 six years, 4 ten years. In mitral stenosis the range was from six months to twenty years; 3 patients lived ten years with good compensation. In aortic stenosis the range was from two years to twenty, and in aortic insufficiency from one to four. From these statistics it appears that the chances of prolonged compensation and of longevity are greatest in mitral stenosis.

The next factor which must influence prognosis in these cases is the extent of the lesion. This can be imperfectly estimated. When a murmur is systolic and the first sound of the heart is also recognizable, the valves are able to do better work than if only a murmur is audible. If in mitral insufficiency the first sound is prolonged into a murmur, it is evident that at first the valves are nearly or quite closed, but are forced asunder later when the intra-ventricular pressure is highest. Whenever a murmur only is audible in a given valve area and the other cardiac sound is inaudible, the lesion is most extensive. A loud and widely diffused murmur indicates strength in the heart muscle. On the other hand, a low murmur need not indicate weakness. It sometimes means that the lesion is not extensive. A long murmur usually signifies a comparatively trivial lesion, or one just formed. When either of the heart sounds has been accentuated, and the intensification of sound lessens, a loss of muscular strength has occurred.

Another factor to influence prognosis is the stationary or progressive character of the lesion. Congenital lesions are stationary. Those produced by endocarditis resulting from measles, scarlet fever, and other eruptive diseases are stationary. Chorea without marked rheumatic symptoms produces comparatively favorable cardiac lesions. Rheumatism is so apt to recur, and, almost without fail, to aggravate cardiac lesions at each recurrence, that chronic vulvular disease of rheumatic origin must commonly be regarded as intermittently progressive. Lesions which develop as a part of degenerations such as arteriosclerosis and atheroma of the aorta are progressive ones, and make prognosis least favorable.

Since the degenerative lesions develop only after middle life, the age of a patient is a partial guide as to his probable longevity. Although the valvular defects just described as stationary are so, a cardiac disease growing out of mitral stenosis, even in childhood produced by an eruptive fever or mild chorea is likely to be progressive, for while the child grows the left ventricle, aorta, and arteries generally do not enlarge as they should, and sooner or later by their relative small size become an additional impediment to the circulation. The right ventricle is then unable to maintain compensation.

It is interesting here to observe the time of inception of the various valve lesions. Of sixty cases of which the time of inception could be determined, forty-nine began before the fortieth year in mitral insufficiency; in mitral stenosis the ratio of those beginning before the fortieth year to those beginning later was as ten to two; in aortic stenosis they were equally divided by the fortieth year; in aortic insufficiency, on the other hand, the ratio of those beginning before the fortieth year to those after were as two to seven. The greater age at which aortic maladies have their inception is also well

[1] C. F. Stillman, "The Life Insurance Examiner," page 30.

shown by the fact that in these same cases mitral insufficiency was observed to originate from the third to the sixty-ninth year, mitral stenosis from the sixth to the sixty-seventh year, aortic stenosis from the twelfth to the sixty-second, and aortic insufficiency from the twentieth to the seventieth.

A fourth factor which will modify prognosis in cases with good compensation is the amount of hypertrophy that exists. When compensation is imperfect, without demonstrable hypertrophy, or only trifling hypertrophy, the chance of longevity is comparatively good, for we can hope that compensating hypertrophy will develop. If hypertrophy must be great in order to maintain compensation trivial changes will break it.

The state of general metabolism is a good guide as to the endurance and longevity of the heart. If a patient's muscles are firm, his blood rich, and his weight maintained the possibility of prolonged compensation is good. Whenever considerable losses or gains in weight occur, either rapidly or progressively, the danger of cardiac weakness increases. An approach to obesity is almost sure to break compensation. A considerable loss of flesh is usually associated with general malnutrition. Cardiac weakness is unavoidable under these circumstances.

The habits of a patient may increase the chances of breaking compensation. If to maintain himself or family violent physical exertion must be made, or moderate exertion continuously over many hours, cardiac exhaustion must be looked for soon. Glaring exceptions to this rule can be pointed out, but it is nevertheless a general statement that can be maintained. If one's mode of life disposes to exposure, to wet and cold, the danger of complications, such as bronchitis, pneumonia, nephritis, and rheumatism is great. These maladies are often the cause of a break in compensation, and if they recur several times are sure to cause it. The frequent or constant use of unwholesome or indigestible foods cause, digestive disorders which will increase blood pressure and the heart's work. Alcoholics are liable to provoke gastritis and consequent indigestion and higher arterial tension. They are also a cause of degeneration of the heart, and when freely used tend to produce cardiac dilatation.

Chronic valvular lesions which are not progressive, produced in early adult life, are least dangerous. As they originate nearer either extreme of life they lessen the chances of longevity.

It is impossible to estimate in weeks or months or years the length of life of individuals who suffer from any particular form of valvular heart disease. It is only possible to enumerate the number of favorable and unfavorable factors in a given case of disease, and from them to estimate the chances of prolonged life. Broadbent has said that those suffering from aortic disease lived on the average four years after they were first admitted to the hospital for the cardiac trouble. This must mean four years after compensation was lost, if it ever existed.

Of 103 of my cases of which the duration of broken compensation could be determined (I do not mean the entire duration, for many of the patients were not under observation up to the time of their death), it appears that in mitral insufficiency the average duration of broken compensation is at least 2.6 years, with a range of from six weeks to seventeen years; in mitral stenosis the average is 3.6 years, with a range of from six months to eleven years; in aortic stenosis the average is 3.8 years, with a range from three months to twenty years; and in aortic insufficiency the average is 2.75 years, with a range of from six months to seven years. This shows that after compensation is broken those having stenosis of the mitral or aortic valves have a greater average duration of life than those having insufficiency.

Cases in which compensation is broken can be placed in three groups according as compensation is imperfect, lost and characterized by edema, or more than lost and complicated by passive congestion of the liver or kidneys, edema of pleura, pericardium or lungs, or by deep anemia. Individuals in the first class may average a life of three to four years, those of the second class of six to eighteen months, and those of the third some weeks.

When compensation is broken a quick pulse and more or less dyspnea, on exertion, coexists. Often coughing occurs also, and sometimes edema. But of these symptoms dyspnea, on exertion, is oftenest the first to attract the patient's attention. Of 105 of my patients, 62 developed dyspnea as the first notable evidence of broken compensation, 33 a quickened heart's action, 6 edema, and 4 cough. The contrast between the first symptoms of broken compensation observed by patients with mitral and aortic lesions is shown by these ratios. In mitral lesions dyspnea was first observed three times oftener than rapid beating of the heart. In aortic stenosis a quick heart-beat was noticed 4.5 times oftener than dyspnea, and in aortic insufficiency it was uniformly the first symptom of broken compensation.

In all cases of ruptured compensation dilatation of the ventricles is the rule. Dilatation is dangerous in proportion as it exceeds hypertrophy rather than directly as the ventricles are enlarged.

The danger which dilatation of the heart causes is much greater when it is chronic than when it is acute. Indeed, the latter is commonly recovered from.

The ability of a dilated and hypertrophied heart to do its work is best gaged by the fulness and strength of the radial pulse, or by the degree of persistent dyspnea which may exist.

Very considerable passive congestion of the liver and kidneys indicates a permanent loss of compensation. It is true that we are often able to restore these organs to a natural size, and even to do so several times, but we cannot produce again, cardiac compensation.

When compensation is lost deep anemia, even if dropsy is not considerable, or the heart greatly dilated, makes prognosis most unfavorable, for necessarily it means that the heart as well as all other tissues is imperfectly nourished and, therefore, that exhaustion is imminent. But anemia, complicating chronic valvular disease, can be cured before compensation is lost. It may be lessened or temporarily cured when the heart first shows signs of permanent weariness, but it can rarely be much changed when cardiac exhaustion is established.

After compensation is broken the patients usually are watchful of their health and seek and heed advice. They modify their habits as far as possible to meet the requirements of their malady. Habits, therefore, at this stage of the disease's progress are of less importance than disposition. The heedless and headstrong patient is sure to be indiscreet, and the ignorant one will often unwittingly work when he should not, or discontinue treatment when it is doing him most good.

The habitual use of tobacco by those having heart disease is detrimental. If used freely it hastens and increases cardiac dilatation and degeneration. If used in moderate quantities its ill effects are usually evident. On general principles it may be accepted as axiomatic that tobacco, in cases of heart disease, is a direct cardiac poison.

In all forms of chronic valvular diseases chronic indigestion and constipation are a menace, on the one hand, to the duration of compensation; on the other, to the remaining strength of an exhausted heart. They increase arterial tension, and therefore the work which the heart has to do. These conditions should be promptly corrected, or at least mitigated.

Chronic valvular diseases are said to be commoner in women than men, but less rapidly fatal in them. Pregnancy and childbirth increase very greatly a woman's danger when the valves of her heart are diseased. I presume we all can recall mothers who have borne and reared families although anatomical defects existed in the valves of their hearts. But after compensation is weakened child-bearing is a grave complication. I have never seen a case in which it did not shorten life, and it has been my misfortune to see several in which it caused death immediately or rapidly.

Rupture of a valve produces an acute rather than a chronic valvular lesion, and is not properly included under the title at the head of this paper. This lesion causes immediate loss of compensation, and death follows usually in a few weeks, and sometimes in a few days.

In 139 of my cases no cause could be discovered for the valvular lesions. Rheumatism was the undoubted cause in 54 cases, chorea in 5, atheroma in 15, grip in 4, pneumonia in 3, scarlet fever was a possible cause in 3 cases, ague in 3, puerperal fever in 1, measles in 2, typhoid in 2, and trauma in 1. Rheumatism was the cause of mitral insufficiency, mitral stenosis, aortic stenosis, and aortic insufficiency with the following degrees of frequency, as 8 is to 4, to 3, to 2 respectively. In only three cases were mitral lesions alone observed to apparently arise from atheroma, but they were several more times associated with aortic lesion.

Combined aortic stenosis and mitral stenosis was observed three times; aortic stenosis and insufficiency five times; mitral stenosis and aortic insufficiency two times; mitral insufficiency and aortic insufficiency one time; aortic stenosis, insufficiency, and mitral stenosis one time; and both aortic lesions and mitral insufficiency two times. Incompetence of the auriculoventricular valves of the right heart was observed ten times associated with mitral lesions.

Bronchitis was the commonest complication observed. Nephritis occurred very often, but six times in aortic lesions to four in mitral. Anemia and asthma were also common complications. Tubercular disease of the lungs occurred in three cases, pericarditis in five, angina pectoris in five. Rheumatism recurred often in those cases caused by it. Grip and gastritis were also occasional complications in these cases of chronic valvular disease of the heart.

From the standpoint of prognosis it is interesting to know that the mortality from heart disease varies in different sections of this country. In 10,000 insured persons in each of the following districts the mortality was as follows: New England and New York, 6.1; Michigan, Wisconsin, Minnesota, Nebraska, 4.1; New Jersey, Pennsylvania, 7.1; Ohio, Indiana, Illinois, 4.4; Delaware, Maryland, District of Columbia, Virginia, Kentucky, Missouri, 6.3; Southern States, 6.6; Washington, Oregon, California, Utah, Dakota, New Mexico, 7.4.[1]

[1] Stillman's "The Life-insurance Examiner," p. 12. Appendix.

THE MANAGEMENT OF TYPHOID FEVER IN A COUNTRY PRACTICE.[1]

BY W. J. J. PARIS, M.D.,
OF MARION, KY.

TYPHOID FEVER is always the result of neglect or failure of prophylaxis, and the latter fails so often that the physician is of necessity more occupied in curing than in preventing the disease. I would not in any sense belittle the importance of prophylaxis. In this disease so much of the instruction given in text-books is difficult to apply in a country practice that I have thought best to speak of my experience in trying to adapt our limited curative means to our surroundings and environments.

One of the greatest difficulties we have to deal with is the lack of trained nurses. To overcome this the physician should insist on having one person take charge of the patient, and then instruct that one in the minutest details of taking temperature, giving baths, injections, etc. He should always insist on having a written record kept, not only of the temperature, but of every other occurrence in connection with the case, *i.e.*, actions of the bowels or kidneys, sweating, sleep, pain, delirium, etc. This person should provide herself with a thermometer, syringe, and bed-pan, and ruled charts with the date and hours plainly written, using a page for each day with hours running from 1 A M. to 12 M., midnight. This record should be filed for future reference as it may assist in the prognosis late in a bad case.

The physician should insist on absolute rest in bed with only a light garment on, which should reach from the shoulders to the heels, a comfortable bed with an oil-cloth under the sheet, a light, well-ventilated room, and should cause to be removed from the room everything not necessary to the comfort of the patient. Every article which is removed from the patient or bed should be put into boiling water as soon as possible. The vessels used to receive the dejecta should be scalded immediately after being used. The room should be sprinkled two or three times a day with boiling water containing five per cent. of carbolic acid, and some of the same solution should be kept constantly in the bed-pan. After each discharge from the bowels the nates should be wiped with a cloth moistened with hot water containing one per cent. of carbolic acid. Medicines and articles of diet intended for the patient should never be kept in the sick room. The patient should never be allowed to use the dishes, spoons, dipper, etc., which are used by the family, and those which the patient uses should be cleansed with hot water several times a day.

The clothing, sheets, covers, and pillow-cases should be changed and aired or washed every thirty-six hours. The mouth should be cleansed frequently with Dobell's solution, or some other good antiseptic wash. I believe that pulmonary complications are often excited by the inhalation of septic matter from the mouth, and therefore careful attention to the antisepsis of the buccal cavity may prevent such complications.

The temperature of the sick room should be kept as near 65° F. as possible. There is usually an unnecessary dread of draughts during the height of the fever. The sick room should be light, quiet, and cheerful, and if possible the bed should be so placed as to give the patient a pleasant out-door view. Never allow visitors in the sick room. No attempt should be made to amuse or entertain the patient; the senses are blunt, he suffers little or no pain, and is occupied with his morbid fancies, which are usually of a pleasant character, and may amount to delirium. This morbid occupation of the mind is perhaps beneficial in preventing the patient from worrying about his condition or his business.

These details may seem at first glance unnecessary and laborious, but any physician who will give this plan a fair trial will be convinced of its advantages. He will soon be rewarded by finding partially trained nurses over the country, whom he has inspired with confidence by the care he has given to their instruction and who will cheerfully second his efforts in caring for the sick, and thereby relieve him of much anxiety about his patients.

It is always advisable for the physician to inform the nurse from time to time of the accidents, complications and sequelæ that may arise during or following the continuance of the disease, at the same time stating that he hopes to avoid them, but should any of them occur the friends will know that it was not unforeseen by him, and will not conclude that he does not understand the case. It is also well to impress upon the minds of both patient and friends the fact that the case is necessarily very tedious, but at the same time if the patient will keep quiet and obey orders, and the nurse will studiously follow instructions, the chances are very largely in his favor.

After convalescence is established, and everybody is happy at the favorable turn in the case, and the friends think "the fever is broke," the physician should notify them that they need not be surprised nor greatly alarmed if they should at any time discover that the temperature has suddenly risen to as high a point as it had ever reached during the primary attack. The temperature record should be kept, at longer intervals, for several days after it has become normal.

It is important to know the exact date of the on-

[1] Read before the Crittenden, Ky., Medical Society.

set of the disease, as there will be a crisis in the case every seventh day. Sometimes when the case is progressing favorably the improvement in the symptoms will be very apparent to the friends, and they will naturally expect that the next day or two will show similar improvement, but the physician may inform them that there will be no further apparent improvement for another week at which time he hopes to see another favorable turn in the case. The physician's resources are often more severely taxed in the management of the friends than of the patient.

Of all the articles of diet recommended in this disease milk is to be preferred. It should be given in small quantities and at regular intervals of about three hours. If it disagrees and causes pain and flatulence and curds or undigested casein are vomited or passed from the bowels the quantity should be diminished, or liquid pepsin given after the milk. Buttermilk is often well borne by patients who cannot take the sweet milk. It is perhaps because the buttermilk does not form a large curd in the process of digestion as the casein is broken up during the separation of the cream in the form of butter. If the milk is from a Jersey or Alderney cow it should be skimmed and diluted with an equal volume of boiled water. It is necessary for the physician to investigate the source of the milk-supply and see that the most scrupulous cleanliness is observed in the handling of the milk, and even in the feed and water given the cow; and the care of the stable in which she is kept.

The nurse should never carry more of anything, food, water, or medicine, to the patient than is intended shall be taken at one time. No cup, spoon, or glass should be used the second time until it has been cleaned with hot water. The patient should be fed at regular intervals without regard to the desire for food. Many typhoid patients would starve to death if not fed until they called for food. Water should be given in liberal quantities. The patient should be urged to take it freely. Patients will often take it in the form of lemonade when it is difficult to induce them to take clear water. The tissues dry up and wither and die from lack of water just as vegetation dies from drouth. Other articles of diet which may be given to vary the monotony are beef-juice, beef-tea, chicken- or mutton-broth, etc. White of egg or the whole egg thoroughly beaten with an equal measure of skimmed milk and a little sugar and a teaspoonful of whisky or brandy is often relished. Starchy and fatty articles should be prohibited because they cannot be digested.

Medicinal treatment should consist in efforts at antipyresis, antisepsis, asepsis, and such measures as will prevent complications, control urgent symptoms, and support the strength of the patient. The Brand method of controling hyperpyrexia, or some modification of it, is the only one worthy of serious consideration at the present time. It is impossible to carry out this method in a country practice like ours, but I find that sponge-bathing, when properly done, will produce just as good results. I begin the bathing early, often before I am certain of my diagnosis because I find that it produces equally good results in any febrile condition. The sponge bath possesses the advantage of easy application. Any intelligent person can be taught in a few minutes to apply it. The bath should be used every three hours when the patient's temperature is above 102° F. I begin with hot water and gradually reduce the temperature until I find that which produces the best effect on the individual patient, for I find that every case requires a temperature suited to its own peculiarities. The patient's temperature should be taken just before and an hour after the bath and carefully recorded each time in order to note the effect of the latter. When the proper degree is found the bath should be continued at that temperature. It should be applied gently and continued thirty minutes unless the patient complains of chilliness. In this way it does not produce shock, and there will be no prejudice against it. The patient should be protected from draughts during the bath, and every part of the body should be thoroughly bathed. There need be no fear of a little moisture left on the sheet or the body of the patient.

I sometimes keep the patient's chest and abdomen covered with a large towel wrung out of water at the proper temperature when the periodical baths fail to reduce the temperature. Children are often much worried by the sponge bath, in which case the wet pack may be used. In many cases the wet pack is superior to the periodical bath because of its continuous action. When using the hot bath it is necessary to take the patient's temperature in the mouth or rectum after the bath, or if taken in the axilla the attendant should be sure that the heat of the bath has disappeared from the body before it is taken, otherwise the record may be incorrect. A rubber bottle filled with ice-water should be kept to the head during the bath, or all the time, if it is agreeable to the patient.

Among remedies used for the purpose of intestinal antisepsis I regard thymol as far the best. It is open to the objection that it sometimes produces an intolerable burning in the throat and stomach and must be given in pill or capsule form, and is administered to children with difficulty. When it is dissolved in olive oil this difficulty is

almost entirely overcome. It may then be given to children by mixing it with syrup of acacia. My favorite formula is the following:

Thymol	gr. xvi
Menthol	gr. xvi
Ol. terebinth.	ʒ ii
Ol. olivæ	q.s. ad ℥ i.

M. Sig. Ten drops in capsule every four hours.

Thymol, if well borne, may be given in doses of 1 grain every four hours. The drug is not absorbed in the stomach and therefore reaches the intestines in its original form. Being incorporated with the oil increases this property. It is well enough to give a mild purgative of calomel if the case is seen early, but not after the tenth day. I usually give $\frac{1}{10}$ of a grain every hour till 3 or 4 grains have been given.

Other antiseptics are naphthalin, which is highly lauded by Wolff of Philadelphia; salol, charcoal, iodoform, creasote, iodin, carbolic acid, guaiacol, and beta naphthol. I have had some experience with most of them and found them unsatisfactory. The late Dr. William Pepper used nitrate of silver in doses of $\frac{1}{5}$ to $\frac{1}{4}$ of a grain from the beginning to the end of an attack of typhoid fever and claimed wonderful efficacy for it. Tincture of the chlorid of iron, 8 to 20 drops every four hours, from the end of the first week until convalescence is well advanced will preserve the strength of the patient, shorten the stage of convalescence and make the recovery more satisfactory. Alcohol may be used in the later stages of the disease when it has a salutary effect, improving the volume and reducing the frequency of the pulse and relieving delirium and subsultus, and when there is a tendency to subnormal temperature. It should be given in such quantities as are suited to the individual case. An intemperate person will require more than a temperate one, an old person more than a child.

Most complications of typhoid fever may be prevented by proper management. Diarrhea is best treated by the administration of opium, gallic acid, nitrate of silver, sulphate of copper, salicylate and subnitrate of bismuth, etc. Sometimes small doses of castor oil, by clearing the ailmentary canal of offensive matter, will check a diarrhea, relieve tympanites, reduce the temperature, and soothe the patient into a quiet sleep. Castor oil is also the best agent for relieving constipation, as it removes dried accumulations and impactions from the semiparalyzed intestines and lubricates the inflamed mucous membrane better than any other purgative. Often when the bowels seem to be sufficiently active there is constipation above the ileocecal valve. When enemata fail to relieve tympanites a dose of oil should be given. Tympanites should be treated by enemata of from 1 to 4 pints of sterilized water repeated every day as long as the condition lasts. Intestinal hemorrhage should be treated with ergot, acetate of lead, gallic acid, cold drinks, cold compresses to the abdomen, and absolute rest in bed.

Pulmonary and cardiac complications call for supporting treatment—strychnin, alcohol, nitroglycerin, and frequent change of position. Epistaxis, thrombosis, parotitis and bed-sores should be treated as in other conditions, but the latter should never be permitted to occur. The best remedy for the severe collicky pains in the stomach and bowels which sometimes occur during convalescence is extract of cannabis indica, $\frac{1}{3}$ of a grain every six hours.

The management of convalescence requires almost as much skill, tact, and patience as any other stage. The return to solid diet should be very gradual as the slightest indiscretion in this particular may bring on an alarming and even fatal relapse. The patient should be kept in bed at least a week after the temperature has become normal. After the third week it is necessary to keep a close watch for the occurrence of subnormal temperature and when it occurs alcoholic stimulants should be given in such quantity as is necessary to raise the temperature to normal. For the colliquitive sweats which sometimes occur during this stage I have found nothing better than 10 drops of aromatic sulphuric acid every six hours in a wineglass of water.

When a case is properly managed it is seldom necessary to give sedatives, but in spite of the most careful attention a sedative is sometimes called for to relieve restlessness. The best combination I have ever tried for this purpose is the following:

℞	Chloral	gr. viiss
	Tr. opii camph.	f ʒ i.

M. Sig. Every hour until quiet. It should be given well diluted with sweetened water or syrup. The free use of opiates as practised by some cannot be too strongly condemned.

THE DIETETIC MANAGEMENT OF SOME OF THE DISEASES OF INFANCY.[1]

By CHARLES GILMORE KERLEY, M.D.,
OF NEW YORK;
ASSISTANT PHYSICIAN TO THE BABIES' HOSPITAL; LECTURER ON DISEASES OF CHILDREN IN THE NEW YORK POLYCLINIC.

THE immense importance played by the diet in the management of an illness in a baby is surprisingly little appreciated. When ill, adults and older children, those beyond the bottle age, are placed upon a reduced diet. A man with gastro-enteritis, pneumonia, or any severe illness with fever, is not allowed roast beef and potatoes; in fact, such a diet

[1] Read before the Hospital Graduates' Club of New York.

would be rejected by the patient and other medical aid summoned. When the baby in this same family is ill with gastro-enteritis, pneumonia or any severe illness with fever, how many parents and physicians are there who discontinue with the child what to it is the equivalent of roast beef and potatoes? The full milk diet is generally allowed. The child is thirsty and eager for fluids and more milk is taken oftentimes than in health.

In every illness in infancy the digestive capacity is diminished to a considerable extent, variously estimated from one-half to two-thirds. The full milk diet causes indigestion and intestinal toxemia, increasing the fever and prostration, in short, giving the patient just so much the more to bear. During the exanthemata, pneumonia, and severe bronchitis, or in any severe illness with fever, I reduce the milk mixture one-half with water, so that the amount of fluid taken remains the same. Two or three times a day the milk-feeding is substituted by an animal broth or barley water.

In the management of the gastro-intestinal affections of the young, the diet, as would naturally be expected, is a most important factor. Among the derangements of the nursing age there are few that cause more annoyance or are harder to manage successfully than constipation. This trouble has been attributed to various causes by many writers. The comparatively long, large intestine folded on itself in a narrow pelvis offering an obstruction to the intestinal contents is thought by many to be the chief cause of the trouble The lack of development of the muscular structure of the intestine is supposed by others to be the producing cause. The lack of nervous power due to an undeveloped sympathetic nervous system is thought to be an important factor. In all probability the agents referred to may all be looked upon as predisposing factors, but I doubt exceedingly if any one of them was ever an immediate cause of constipation. One who has seen many cases of summer diarrhea in active operation will not question the muscle and nerve power of the intestine, or believe that the folding of the colon on itself offers any great obstruction.

Constipation in infants is due in a large measure to the element of casein in the child's nourishment, which, of course, is milk. Casein in excessive quantities, a higher percentage than normal with normal fat, will cause constipation. A child fed on a milk containing normal casein and low fat will probable be constipated. Infants may be constipated on a perfectly modified milk because of the difficulty of digesting cows' milk casein; or it may be due to the heating of the milk to an excessive degree.

Among the breast-fed, the dietetic management of this disorder is difficult, for it is hard to change the character of the mother's milk. Much may be done, however. Examine into the daily life of the mother and you will usually detect an inactive habit, a good feeder, usually a tea drinker, and probably constipation. An examination of the milk of these mothers will show that the normal relative proportions of the fat, proteid and sugar have not been maintained. The proteid will usually be found higher than normal with low or normal fat. The first step in treatment is to regulate the habits and life of the mother. The bowels must be evacuated daily with a laxative if necessary. She must be placed on a fresh meat, fresh vegetable and cooked fruit diet; a malt liquor with luncheon or dinner is advised. She is instructed to take at least three hours' exercise daily in the open air. This régime will diminish the proteid, increase the fat and not only relieve constipation in the child, but furnish it with better nourishment and a later weaning than would otherwise be necessary. The treatment of the mother will answer in a considerable number of cases, but when we fail, the further treatment is with the child. My first step is to give cream. Not purchased cream, but cream which has been produced from the best milk obtainable. I give from one-half to two teaspoonfuls in quite warm water immediately before nursing. The use of the gluten suppository at the same hour of the day for several days will do much to establish the habit of a passage at a certain time. In case the cream does not agree or is ineffectual, pure cod-liver oil 15 to 30 minims, three or four times daily, may be found useful. When the means enumerated fail, as they will in a small number of cases, medication will be required. Cod-liver oil is used as a food, not as a medicine.

In the bottle-fed and in the "run about" children the management is much easier and more fruitful in results. The treatment is simple and resolves itself largely into a manipulation of the fat and proteid. Given a bottle-fed child six months of age, suffering from obstinate constipation—the proteids are at once cut down to a minimum by prescribing cream, water, and sugar mixture. For this purpose a 16-per-cent. cream is desired. The nurse or mother is instructed to allow the milk which is delivered in bottles at about six o'clock in the morning, to rest in the refrigerator until twelve o'clock, when the cream is removed. If the milk is good the cream will contain approximately 16 per cent. of fat; if it varies from this figure it will probably be a lower percentage. I use the pint (sixteen ounces) for a standard. If we mix 1 ounce of this 16-per-cent. cream with 15 ounces of water, we will have a 1-per-

cent. fat mixture. If 2 ounces of cream are mixed with 14 ounces of water, a 2-per-cent. fat mixture will result; if 4 ounces of cream with 12 ounces of water, we will have a 4-per-cent. fat mixture. But our 16-per-cent. cream contains more than fat. It contains approximately 3.2 per cent. proteid and 3.2 per cent. of sugar. If then we were to prepare a food for this six-months',constipated baby, I should endeavor to give a high fat mixture, 4 per cent., with as low a proteid as possible. In order to do this we use 4 ounces of cream and 12 ounces of milk. This, as will easily be seen, would furnish us a 4-per-cent. fat, .8-per cent. proteid and .8-per-cent. sugar. The fat is as high as we wish it, the proteids low where they ought to be, and the sugar low, which we increase by the addition of milk or cane sugar.

A word about the low proteid, .8 of 1 per cent. Compared with the mother's milk it is low, but we must remember that in our modifications we are not dealing with mother's milk. It is unwise to attempt to give in many cases as high a cow proteid as is contained in mother's milk, for the reason that it is more difficult of digestion and by reason of its higher nutritive properties it is not required. In case the reduction of the proteid is impracticable or does not furnish relief, I add to each feeding of the cream or milk mixture one or two teaspoonfuls of Mellin's food or malted milk, which will often act as a satisfactory laxative. This is the only use to which I ever put either of these articles. In older children, eight or twelve months of age, diluted cream with water is often given with oatmeal jelly, one or two tablespoonfuls to each feeding. It is extremely rare for a child to resist this treatment. When such is the case I find the stool usually soft when voided. The cause of constipation in these cases is doubtless due to deficient peristalsis. In these infants medication is required.

In "run about" children the use of cream and water mixtures, rare meat, green vegetables, stewed fruit, zweibach, and bran biscuit renders the management of constipation at this period exceedingly simple. The meals must be given at stated intervals, crackers, bread, potatoes, and other coarse starches excluded. The more milk is heated the more does it act as a constipating agent.

In no illness of childhood is the diet of more importance than in acute gastro-intestinal diseases of summer. In these disorders we have, as is now recognized by all workers in this field, a gastro-intestinal infection primarily to deal with, a poisoning process brought about through the agency of bacteria; direct infection by means of bacteria swallowed; indirect or auto-infection so-called, whereby the bacteria, always present in the intestine, are given an opportunity for growth and development through the withdrawal of the normal digestive disinfectant juices. Such a condition may be the result of any febrile illness, or through the action of heat, cold, fright, or any means which may indirectly prevent the normal amount of the substances being furnished to the intestinal canal in their usual strength. We know that for the vigorous growth of bacteria a culture field is required. There must be warmth, moisture, and a favorable medium. If, then, we know there is an infection, through the means of which our patient is made ill, it is our duty to make the field as inhospitable as possible. Our first step then in the management of summer diarrhea, whether the child is nursed or bottle-fed, is to discontinue the milk at once. In the scramble for intestinal disinfectants we have lost sight of the fact that bacteria may be killed by other means than direct contact. To digress a moment, I can imagine nothing more ridiculous than the physician giving a child with summer diarrhea cooked milk, which is difficult of digestion at any time, and giving the child resorcin, salol, etc., drugs which disturb digestion and are of questionable utility in the intestine, if they ever reach it.

As before mentioned, we may kill bacteria in other ways than by direct contact. We will withdraw all favorable culture media and give non-irritating drugs that will render the culture field as inhospitable as possible. The diet allowed must be of such a nature that it will be absorbed largely by the stomach; keeping the intestine empty and giving it as much rest as is possible. I prescribe barley water, rice water, chicken-broth, beef juice, diluted one in ten, wine whey, and the liquid peptonoids in barley water. It is well to prepare three or four articles of diet and then alternate them. The child will soon tire of one of these substitutes if given at every feeding. I find it a very good scheme to use barley water as a base, with the addition of a teaspoonful of beef juice or a teaspoonful of liquid peptonoids; with the barley water may also be mixed a small quantity of chicken broth.

The patients are fed every two hours if they require it, in quantities equal to that which they are accustomed to in health. White-of-egg mixture I rarely use. I look upon it with almost as little favor as milk. Upon resuming the milk diet, which may be allowed when the stools approximate the normal, care must be exercised that the child is not put on the customary strength at once. If this is done our treatment will probably have to be repeated. I usually begin with one-half an ounce of milk to the feeding of five or six ounces of barley water and increase one-half ounce daily if it is well borne. Many children will not be able to take this small amount.

With these it may be necessary to continue the above-named substitutes for a considerable period of time.

CLINICAL MEMORANDA.

EMPYEMA OF THE PLEURAL CAVITY.[1]

By W. J. BREEDING, M.D.,
OF TAYLORS, TENN.

CASE I.—Mr. B., aged forty-five years, recently came under my observation with a large abscess pointing in the infrascapular region. This was freely opened; it discharged three pints of offensive pus. The abscess was kept open and drained freely, and was found to communicate with the pleural cavity. The opening, however, was not sufficiently large to drain the cavity, which was found upon examination to be full of pus. The resection of a rib was advised, but the patient's consent could not be obtained. Later I was called again and informed that the patient had been passing a peculiar, bloody, offensive material almost constantly from his bowels for several hours. The nurse said that the material was identical with that discharged from the external abscess.

Physical examination of the chest revealed an absence of the former dulness, respiration was almost normal, and soon the patient was much better. The discharge from the external opening also ceased, and he gained steadily for about thirty-five days, but finally died, evidently from an infection involving the gastro-intestinal tract.

I have searched diligently for literature on the subject of a pleural abscess rupturing into the alimentary canal, but find on record only one case, reported in the MEDICAL NEWS for June 24, 1893, by Dr. N. T. Dulaney of Bristol, Tenn. The empyema in this case was produced from a gunshot wound through the lung. The abscess pointed on the back to the left of the spine. This was incised and drained of pus and débris. A rupture into the intestinal canal was proven by injecting permanganate of potash solution into the bowel, which was forced through the external opening communicating with the pleural cavity.

It appears very rational to my mind that in surgically neglected cases of empyema the force of gravity could press an inflamed pleura downward against the diaphragm, where it could become adherent, and that the opposite surface of the diaphragm from irritation could form an adhesion with the colon. The pressure from above might in this manner cause a pointing and rupture into the intestinal canal. However, I have never seen this theory expressed in medical literature.

CASE II.—Miss A., aged eighteen years, student in a boarding-school. Family history good. Came under observation February 8, 1898. She gave a history of having been confined to her bed some three weeks, during which time she was very properly treated by a competent physician for pneumonia. The history and temperature charts, so far as I was able to ascertain, did not show a sudden crisis, but the continuance of an irregular temperature.

I found her very much emaciated, lying on the affected side, respiration about 24 per minute, pulse 120, and temperature in the afternoon 102.5° F. My physical examination revealed what appeared to be fluid in the pleural cavity, extending as high as the fifth intercostal space in the axillary line. I was informed that a microscopical examination had demonstrated the presence of tubercle bacilli in her sputum. In view of this opinion I was somewhat undecided as to the diagnosis, the question being whether it was consolidation from tuberculosis or empyema. I was inclined, however, to the latter opinion. Repeated physical examinations revealed a gradual increase of the pathological condition upward until it had involved the entire left side. The absolute flatness on percussion, displacement of the apex downward and to the right, with other corroborative symptoms, led me to a positive diagnosis of empyema. The patient's condition at this time contraindicated the resection of a rib, so I decided to aspirate. On March 1st the needle was introduced between the eighth and ninth ribs, posteriorly, and something more than one pint of pus withdrawn. This aspiration was repeated four different times. Severe coughing and symptoms of collapse always prevented the withdrawal of more than one pint. These aspirations seemed to have a favorable effect on her temperature and general condition for a few days, when the symptoms and physical signs would return as before.

Realizing that more thorough drainage must be secured, on March 15th an incision about one and one-half inches long was made into the pleural cavity between the seventh and eighth ribs. Through this opening quart after quart of creamy pus was discharged. It was kept open by means of gauze packing, and after the opening became smaller an intubation-tube was introduced and retained by means of adhesive strips. Two days after this opening was made a rupture into a bronchial tube occurred, as was shown by pints of pus pouring from the mouth and the gurgling of air in and out at the external opening.

The patient now passed rapidly into a grave condition. Her pulse was 140 per minute, very irregular, and at times could not be counted at the wrist. Evacuations from the bowel and bladder were involuntary. She was unconscious and unable to swallow liquids for three days. Subsultus tendinum was very marked, her temperature was subnormal, and her abdomen became as tympanitic as a drum. Hypodermic injections of strychnin and nitroglycerin were given every three or four hours.

I gave an unfavorable prognosis. The friends made arrangements for the funeral and expressed a hope that death would soon end her suffering, as this end seemed inevitable. From this extreme condition she gradually regained consciousness. As soon as she was able to swallow tablet triturates of calomel and soda were given with the object of partially disinfecting the foul alimentary canal, turpentine stupes were applied externally, and turpentine enemas administered. An excessive diarrhea ensued, lasting five days. The abdomen assumed a

[1] Read before the Upper Cumberland Medical Society, at Gainsboro, Tenn., May 2, 1899.

scaphoid shape, and her appetite became ravenous. On March 30th, fourteen days after the thoracotomy and the coincident rupture into the bronchial tube, the following report was made: Pulse, 106, much stronger and not so irregular; temperature in the afternoon, 99.5° F.; appetite good; urine three and one-half pints in twenty-four hours and normal in appearance. Two or three discharges from the bowels daily, showing good digestion. The opening discharges half a pint daily. The cavity is packed with gauze twice in each twenty-four hours. The patient is anxious to sit up in a chair this morning, and wants to know when you will allow her to go home.

A physical examination the next day revealed unmistakable evidences of fluid at the apex of the lung, while the lower region, being constantly drained, showed no signs of fluid. I was forced to the opinion that I had to deal with another pus cavity at the apex, which was undoubtedly separate and distinct from the one below; consequently a thoracotomy was performed, and more than a quart of pus withdrawn from this cavity. The opening was packed daily, with a continued improvement in the patient's condition for some two weeks, when evidences of fluid were detected between the two points mentioned. Another opening was made between the fifth and sixth ribs anteriorly on May 1st. The pus was very superficial in this locality, and could be seen pushing outward when the patient coughed. Large quantities of pus drained from this opening, with a much more rapid improvement in the patient's condition. She now had three openings into her pleural cavity, one between the first and second ribs, one between the fifth and sixth, and one between the eighth and ninth ribs. These openings were all packed twice daily with sterile gauze. When the packing was removed the patient's position was changed, and all the cavities drained thoroughly.

After the last operation her temperature remained almost normal, her pulse about 100, her appetite became ravenous, and her strength gradually increased until she was able to go to her home in North Carolina on June 18, 1898, three and one-half months after she came under my observation.

At my last examination I found the lung gradually expanding, and there were no symptoms of pus in the pleural cavity. She was instructed to keep the openings packed to prevent closing as long as a discharge continued. My last letter from her states that she is practically well, weighs 134 pounds, walks one and one-half miles to church, does housework at home, and expects to begin teaching school soon. All the openings have closed except the one at the apex, which still discharges a thin, watery fluid occasionally.

I think we can draw the following logical conclusions from this case: First, aspiration is useless except as a palliative and diagnostic measure. Second, thoracotomy is often preferable to the resection of ribs, or Eastlander's operation, in cases of extreme asthenia. Third, there is a possibility of recovery after rupture into a bronchial tube. Fourth, there is a possibility that distinct pus-cavities may be formed by pleural adhesions, and such cavities must be drained and treated as separate pus cavities. Fifth, in cases of separate abscesses it is much wiser to make a simple incision between the ribs into the pus cavity when there is sufficient intercostal space rather than subject the patient to the very grave risk from an anesthetic and the resection of ribs for the purpose of drainage. Sixth, one should never despair of such cases, however desperate they may appear.

BULLET WOUND OF THE LIVER AND LUNG; OPERATION; RECOVERY.[1]

By P. R. BOLTON, M.D.,
OF NEW YORK;
INSTRUCTOR IN SURGERY IN THE CORNELL UNIVERSITY MEDICAL COLLEGE; ASSISTANT SURGEON TO BELLEVUE HOSPITAL.

PATIENT, male, aged forty-two years, a pedler by occupation. Family history negative. No previous serious illness. On September 8, 1898, he received a pistol wound at close range, the thirty-two-caliber ball entering the abdomen just to the right of the median line and about two and one-half inches below the tip of the ensiform cartilage. On admission to the Hudson Street Hospital there was a considerable degree of shock, but no further symptoms significant of intestinal injury or injury of the lung. Temperature 100° F., respiration 26, pulse 106.

Under ether anesthesia the wound of entrance was enlarged to four inches by extending it up and down through the rectus muscle and the peritoneal cavity opened. The anterior surface of the left lobe of the liver presented a horizontal laceration two and one-half inches in length and one inch in depth, from which fairly active bleeding was going on. There was a considerable amount of free blood in the peritoneal cavity. Digital exploration of the liver wound failed to disclose the path of the bullet, and it was tightly packed with gauze, which easily checked the hemorrhage from it.

No intestinal wound was discovered, and after sponging out the peritoneal cavity the incision of the abdominal wall was closed by suturing in tiers, the gauze packing of the liver wound being brought out at the original wound of entrance. A dry dressing was applied and retained in place by a bandage applied snugly about the abdomen and lower chest in order to exert as much direct pressure upon the gauze packing as practicable and to limit respiratory movements as much as possible.

The patient was returned to bed, but slightly more shocked than before operation, and reacted well from the ether. His afternoon temperature on the following day rose to 102° F., then gradually fell to normal after a few days. His general condition was excellent throughout convalescence. The gauze packing was entirely withdrawn on the third day and primary union of the suture line occurred without incident. On the sixth day the patient himself discovered the bullet beneath the skin overlying the sixth intercostal space in the right axillary line, and a small incision served to remove it from this position.

Examination of the chest now showed that the pleural cavity of the right side contained a moderate amount of

[1] Read at a meeting of the Surgical Section of the New York Academy of Medicine, May 1, 1899.

bloody fluid, which was probably the cause of the slight cough and local pain which the patient had previously mentioned. But there was no recognizable evidence of a lesion of the lung though this organ must have been traversed by the bullet in its path from the epigastrium to the position from which it was extracted. The pleura was emptied of blood by aspiration, and at the time of his discharge from the hospital all signs of its presence had practically disappeared.

The case presents at least two points of interest: first, a wound of the lung unaccompanied by hemoptysis; second, the readiness with which bleeding from the liver wound was checked by packing with gauze.

One not infrequently sees subcutaneous fractures of the ribs associated with cellular emphysema, in which there is no hemoptysis, but with the more extensive injuries of the lung bloody expectoration is the rule but not without exception, for several of the men shot through the chest with Mauser bullets at Santiago last Summer, who came under my care at Bellevue Hospital after their removal North, gave no history of having spit blood at any time, while in at least one of these individuals hemoptysis was a conspicuous feature. One may, therefore, justly infer that the absence of hemoptysis by no means excludes penetration of the chest-wall and lung by bullets in wounds of the thorax in which the path of the ball is in doubt.

The control of bleeding from wounds of the liver is often most difficult by either the cautery, suture, or packing, though success oftenest follows the last-named plan. The cautery is almost useless in closing the orifices of the gaping hepatic veins. Sutures, in order to compress the veins sufficiently to obstruct them, usually cut out and thus add to the difficulty. Gauze, on the other hand, firmly crowded into the liver wound, supplemented by digital compression for a few moments, usually succeeds. Whether tightly bandaging the abdomen and lower ribs and enforcing costal breathing to prevent dislodgment or loosening of the packing by movements of the diaphragm is conjectural, but it seems at least worthy of consdieration.

THERAPEUTIC NOTES.

Treatment of Catarrhal Ulcerations of the Large Intestine.—RICHTER (*Therap. Monatshefte*, March, 1899) says that it must be admitted that most of the food taken during the day finds its way, by the following morning, into the large intestine. If, therefore, one would employ remedies to heal ulcers in this portion of the alimentary tract it is best to give an early morning injection, and then to administer astringents, subnitrate of bismuth, etc., by the mouth, before the patient is allowed to have any nourishment, the breakfast being postponed for a few hours. By this means he has been able to cure, he says, some cases which were rebellious to other methods of treatment.

Extraction of a Hat-pin from the Urethra.—BROUSSIN (*Centralbl. f. Chir.*, April 8, 1899) was able to extract a hat-pin from the male urethra under apparently unfavorable circumstances. The pin had been introduced head foremost and had slipped wholly into the urethra, so that its point was about an inch inside the meatus. Clamps were placed upon the lips of the meatus and drawn upon in order to make the urethra tense, and to draw out of its wall the point of the pin. A rubber catheter which had been cut off square was then slipped into the urethra and over the point of the pin. When the tension on the urethra was relieved and the penis drawn backward the catheter covering the point of the pin was crowded out of the penis and, the point of the pin thus being obtained, the whole was easily withdrawn.

The Use of Salicylic Acid and Salicylates in Children.—COMBY (*Rev. de Therap.*, April 1, 1899) gives a number of prescriptions in which salicylic acid and its compounds may be used with advantage in the treatment of diseases of children.

For infantile eczema:

℞ Vaselin . . . . . ʒ j
Lanolin . . . . . ʒ iv
Zinci oxidi . . . . . gr. lxxij
Ac. salicyl. . . . . gr. xij.

M. Sig. Rub in morning and evening.

Or the following:

℞ Ac. salicylcii . . . . . gr. iij
Pulv. lycopod. }
Pulv. amyl. } aa . . . ʒ j.
Pulv. talc. }

M. Sig. Dust the affected parts three or four times a day.

In tonsillitis a bandage around the throat may be kept wet with the following mixture:

℞ Ac. salicylici . . . . . gr. xij
Alcohol . . . . . q.s
Glycerin . . . . . ʒ j
Infus. eucalypti . . . . . ʒ iss.

In articular rheumatism an application of vaselin containing salicylic acid, one dram to the ounce, may be made over the affected joint. Or a 33-per-cent. mixture of salicylate of menthol in liquid vaselin may be used. Rheumatism in infants is particularly susceptible to salicylate of soda administered internally. For this purpose the daily dose is 7 grains for each year of the child's age. If the stomach does not tolerate the drug it may be given rectally after an evacuation.

For intestinal antisepsis the salicylate of bismuth may advantageously replace the subnitrate of bismuth. The usual dose is 3 grains a day for each year of the child's age.

Cold Water to Allay Persistent Vomiting.—MITCHELL (*Virginia Med. Semi-monthly*, April 14, 1899) reports the successes he has had with cold water in the treatment of persistent vomiting. It is applied to the epigastrium by means of towels wrung out of ice-water, which are changed every minute until the vomiting ceases. In fifteen or twenty minutes the cold will be successful, and the treatment may then be discontinued, to be resumed later if necessary. By these simple measures Mitchell has succeeded in stopping dangerous vomiting, in a number of instances, after child-birth for example, when medicines and other external applications had failed to give relief.

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SATURDAY, JUNE 17, 1899.

UNNECESSARY STREET NOISES AT NIGHT.

NEW YORKERS have learned to put up with almost any amount of noise on their streets without a murmur. The liberty thus accorded has been abused more and more until now there is no city in the world which is less suitable for the habitation of people with ordinary nerves. Preventable noises have occupied heretofore only the daylight hours, but now they are becoming a part even of the night and especially of the precious early morning hours when tired city people should have an opportunity to rest undisturbed.

So-called newspaper enterprise has made the night hideous with cries of "extras" containing very little that is extraordinary and as this has been allowed with impunity further invasions into the nightly silence are presumed upon. We had last week a most flagrant violation of public order in this matter. For days the city had been sweltering in a torrid heat that affected every one seriously and extending into the night made rest almost impossible. On the first reasonably cool night after the heated spell, when an exhausted community hoped to regain some of its lost sleep, it happened that what the police department of the city considers a boxing-match was "pulled off." The result was a series of newspaper "extras" which were announced by demoniac howling on the streets of the residence portions of the city from twelve to two o'clock in the morning.

It seems useless to protest against unnecessary noises in the daytime. A certain callousness in the matter has developed in New Yorkers' ears and minds amidst the buzz and burr of the street cars, the rattle of wagons, and the roar of the elevated trains. But these night alarms in the quieter residence districts of the city are uncalled for and should be suppressed.

This is an eminently suitable field of work for the New York Board of Health that of late has shown a tendency to busy itself about many things not exactly in its line. It is well known that heat prostrations are due much more to the exhaustion incident to insufficient sleep on successive hot nights than to the actual intensity of the daily heat. Anything that is calculated to add further to nocturnal disturbance and wakefulness deserves especial attention during the heated season, when the necessity for having windows open makes all street noises so pervasive. Children in particular are easily disturbed by unwonted noise and are not easily quieted again, and so Nature's reparative purposes at night are sadly disturbed. We are just entering on what promises to be a summer of extremes in temperature; let us at least be saved the nuisance of unwarranted nightly disturbance.

THE ANTIVACCINATION PROPAGANDA.

WE noted some time ago that a prominent English antivaccinationist was in this country and at work endeavoring to spread the teachings of his baneful sect. We understand now that members of the Legislatures of various States are being quietly labored with so that when antivaccination measures shall be proposed in the near future they may not be without their strenuous advocates. We have reason to know the tireless energy and persistence of these people in many matters, and it behooves the medical profession not to be taken unawares.

The full purpose and the ultimate object of the recent antivaccination legislation in England was not fully comprehended until the law had already been enacted and conscientious objectors were multiplying

beyond all possible expectation. The vigorous protest of the British medical profession has come too late to be of any avail to check the progress of this movement. It will now require much greater effort to undo this wrong than would have been necessary to prevent it. The Jenner Society has begun some efforts at organized education of the public regarding vaccination, but it is meeting with great opposition, and especially with a thoroughly funded set of lecturers who are effectually carrying out the supposed "educational work" of the Antivaccination League, which has been aroused to renewed efforts.

In America it behooves the medical profession to organize thoroughly to prevent any dangerous legislation in the line of obstructing vaccination from being enacted. State and National societies, whose meetings are so frequent now, should see that their legislative committees are instructed to keep a vigilant eye on this special feature of legislation. Owing to ineffective vaccination laws and inefficient enforcement of those that exist, there is much more smallpox in this country than is justifiable in the light of the knowledge we have on this subject. Let us not be compelled to face the possibility, as our English friends are destined to, of practically a large part of an entire generation being permitted to go unvaccinated. To secure this, however, we must not permit antivaccinationists to gain the public ear because we despise their efforts, nor supinely allow them to get any, even the slightest, legislative aid for a purpose that can only be redeemed by precious lives in after years.

VIOLENT EXERCISE AND THE KIDNEYS.

WHETHER albuminuria is always pathognomonic of some lesion of the kidney is still an open question. Professor Senator of Berlin, the distinguished specialist in kidney diseases, advocates the existence of a physiologic albuminuria. This occurs directly after large quantities of some simple albuminoid food, as white of egg for example, has been taken or is noted after a heavy meal in which albuminous material has been plentifully consumed, followed by considerable physical exercise. But the learned professor so hedges about his diagnosis of a physiologic albuminuria with precautions against the possible existence of a pathologic albuminuria, as to make its significance of no great importance. The majority of the authorities on urinary diseases concede at once that albuminuria is always extremely suspicious, and practically always indicative of a kidney lesion.

It is interesting to note then the condition of the urine after violent exercise is taken, violent in this connection being a very relative term and meaning rather unusual. For one who is unused to it a spin on a bicycle somewhat more hurried and prolonged than usual may constitute violent exercise. It was first pointed out, we believe, by Senator that each unusual physical exertion was often followed, even in individuals who had no pathological condition of the kidneys, by albuminuria. In these cases the amount of albumin passed was easily discoverable by the ordinary tests. Then Chvostek in Vienna showed that severe physical exercise is not infrequently followed by traces of blood in the urine, and occasionally by the occurrence of small blood casts as well as albumin. These disappear after a few hours and do not seem to be pathognomonic of any lesion of the kidney.

At the recent meeting of the American Climatological Association here in New York Dr. Harold Williams of Boston in a paper on the effect of violent exercise upon the heart brought out incidentally some interesting facts regarding its effect upon the kidneys. In each one of some thirteen runners examined carefully after a twenty-five-mile cross-country race albumin was found in the urine; in about one-half of the cases hyalin and even small granular casts occurred, though the urine had upon examination before the race been found perfectly normal. These abnormal urinary constituents disappeared within forty-eight hours, and the effect upon neither the heart nor the kidneys proved serious or persistent.

Whether the repetition of conditions that bring about such changes in the urine will not eventually lead to permanent pathologic alterations of the secreting substance of the gland no one is prepared to say. It seems clear, however, that upon the already weakened kidney of a chronic nephritic condition the call made by the necessity for the excretion of unusual amounts of the products of muscular metabolism can hardly fail to work serious injury. The advisability of extreme caution in this matter of ex-

ercise in cases of kidney disease is evident. In our day it is so common for patients to take the inconsiderate advice of friends and even to adopt certain notions of their own with regard to exercise that it would seem well to place before every patient suffering from nephritis the danger of unusual or prolonged exertion.

This warning seems especially appropriate just at this season of the year when patients are about to take their vacations. In the idleness of summer, foolish over-exertion is apt to be indulged in, the more so as the advice to keep the skin active in order to relieve the kidneys of some of their work usually includes the prescribing of a certain amount of exercise. Such exercise, however, must be taken regularly, must begin very gently, and only become more prolonged by degrees and under the careful supervision of the physician so that it may be modified before it causes a deterioration of the secretion of urine. Even diseased kidneys may be trained to excrete considerable amounts of the products of muscular metabolism, but the burden of excretion must not be thrown on them suddenly and without preparation.

ECHOES AND NEWS.

Lawson Tait Dead.—It is reported from London that Dr. Lawson Tait died suddenly at his home, June 13th. Dr. Tait was in his fifty-fifth year.

Ophthalmia among Immigrants.—"Egyptian ophthalmia" is the most common of the diseases among immigrants landed at the port of New York. All who are found to be suffering from this disease are deported. In May 45,000 immigrants were landed, and of these 285 had granular conjunctivitis.

Yellow Fever at New Orleans Suppressed.—No cases of yellow fever have been reported from New Orleans since the one of May 30th. The Marine Hospital Service reports that the State of Texas has removed its quarantine against freight from New Orleans, which was promptly declared upon the announcement of the case of yellow fever occurring there May 30th.

Dr. Cleaveland's Case Reopened.—A second examination of Dr. Trumbull W. Cleaveland of 45 West Fiftieth street, who is charged with having caused the death of a child, Violet Carhart, on April 13, 1897, by prescribing improper medicine, has been begun in the West Fifty-fourth Street Police Court. Two indictments against Dr. Cleaveland have already been dismissed for lack of evidence.

The American Proctological Society. — This society was organized at Columbus, Ohio, on June 8th. Its purpose is to study the diseases of the lower intestine. Among its members are prominent specialists in the leading cities of the United States. Dr. Joseph M. Mathews of Louisville, Ky., the retiring President of the American Medical Association, was elected president, and Dr. James P. Tuttle of New York City, vice-president.

Increase in Death-rate.—According to statistics in relation to the death-rate, compiled by the New York City Health Board, there was an increase in the death-rate from diphtheria of one hundred per cent. for the week ending June 3d over the corresponding period of 1898. For the same week there was an increase in the total death-rate in the Boroughs of Manhattan and the Bronx of two per cent., and in Brooklyn for the same time 1½ per cent.

Appointments in the Marine Hospital Service.—Dunlop Moore of Pennsylvania and Halstead A. Stansfield of California were commissioned assistant-surgeons May 31, 1899. James C. Ballard of Mississippi was appointed acting assistant-surgeon, and stationed at Natchez, Miss., May 23, 1899. S. R. Thomas, H. W. Wickes, and H. S. Cumming have been commissioned passed assistant-surgeons; W. P. McIntosh has been commissioned surgeon.

Red-Cross Nurses.—The Red Cross Society for the Maintenance of Trained Nurses, which was organized as an auxiliary to the Red Cross Relief Committee, has issued an enlarged report of its operations, including the work done in the Philippines. On January 4th there was an unexpended balance of $19,874.12, which was used in sending twelve nurses to Manila. The Society was organized on May 18, 1898, and its work officially closed on March 1st of this year.

The Noble Red Man.—The statement that "a full-blooded Indian lunatic never lived" has been accredited to United States Commissioner William A. Jones, who has been inspecting the site recently purchased by the Government near Canton, Indian Territory, for an Indian insane asylum. Mr. Jones states: "The occupants of the hospital soon to be opened will all be mixed breeds. Probably there never was a case of insanity in any tribe until the malady was introduced by mixing with the whites."

A Stutterer Cured?—Private H. E. Redwood, who is now serving in the Philippines, was, when he enlisted, so affected with stuttering that the recruiting officer was tempted to leave him off the rolls. At the battle of Mariquina he was shot in the face, the bullet passing through his mouth. and making its exit near the back of the neck. He recovered from the wound, and it is stated that he now stutters no more, and that he is busy completing the telling of stories which he has never been able to finish on account of his halting speech.

Food Investigation.—The New York State Board of Health will conduct an investigation regarding the adulteration of food products. For this purpose $4000 has been appropriated. Dr. Willis G. Tucker, the State Chem-

ist, will analyze hundreds of samples of teas, coffees, flour, sugar, fruit syrups, baking powders, and other food products which will be collected during the next few weeks. Violations of the law prohibiting food adulterations will be reported to the District Attorney of the county in which the adulterated article is purchased.

Obituary.—Dr. Ezra R. Pulling died on June 5th at his home, 84 Washington Place, New York City. He was seventy-one years old. He was graduated from the College of Physicians and Surgeons in 1853; he served in the Civil War as a surgeon, was a member of the staff of the Lying-in Hospital, and was a member of the Physicians' Mutual Aid Association.—First Lieutenant William B. Westredge, Surgeon, United States Army, died at Manila on June 10th of typhoid fever. He was graduated from Rush Medical College, Chicago, in 1896.

Cancer Mortality.—The great increase in the mortality from cancer in Great Britain has led to the formation of a society to combat the disease, at whose initial meeting in London on June 7th it was pointed out that the number of deaths from cancer in New York City has doubled during the last ten years, and that it is calculated, if this increase is maintained, there will be more deaths from cancer in 1909 than from consumption, smallpox, and typhoid fever combined. In Great Britain during the past ten years the ratio per million has risen from 385 to 787.

Dr. Woodbury's Mission to Germany.—On June 8th it was reported from Washington that Dr. John McG. Woodbury of New York, lately Chief Division Surgeon of Volunteers, United States Army, and acting chief surgeon of the army in the field, and who is at this time Clinical Professor of Orthopedic Surgery in the Cornell University Medical Department, has been designated a Commissioner on behalf of the United States of America for the purpose of observing and reporting upon the medico-military organization of the German Army in active operation during the autumn maneuvers.

Sanitary Work in Havana.—Captain Weber, in dredging the upper end of the harbor of Havana, has cut a 200-foot channel, and a hundred-years' accumulation of old Spanish dumpage has been removed from the Santa Cataline branch of the harbor. This former yellow-fever breeder has been thoroughly cleansed, the shore scraped, and the deposit taken out to sea. Some 10,000 barrels of lime have been used. The army health report for the city of Havana is very gratifying. Less than two per cent. of the 2000 men are sick. This is a better average than is usual anywhere in the United States.

Cornell's Medical College Commencement.—The first commencement exercises of Cornell University Medical College were held in Chickering Hall, New York City, on June 7th. There were fifty-eight graduates. Ten of these were women, of whom two were among the ten "honor men." Gratitude was expressed toward Colonel Oliver H. Payne for his gift of $1,500,000 for a building, which will enable the college to become one of the best equipped institutions for medical instruction in the world. This building is now in course of construction at First avenue, Twenty-seventh and Twenty-eighth streets.

The Status of Electricity in Gynecology.—In the discussion before the Obstetric Section at Columbus recently the following opinions were expressed: Dr. Wathen of Louisville: "I think electricity has done untold harm. The treatment that we ought to develop for myomatous tumors of the uterus is that of myomectomy." Dr. Reamy of Cincinnati: "I call a halt to the denunciation of electricity in these conditions, and I protest against the dogmatism that denounces everything that is not surgery as unscientific." Dr. Marcy of Boston: "I am sorry to cross swords with my friend Reamy. In the observation of a large number of cases under the treatment of electricity I have not found a single patient whom I thought materially benefited."

Camp Crematories.—Latrines in military camps have always been both conspicuous nuisances and prolific sources of disease. Dr. G. W. Bissell of the Seventy-fourth Regiment, Buffalo, New York, has made a study of the conditions in the various camps last summer that produced the outbreaks of typhoid. Since then he has perfected a plan which he expects will obviate the dangers to health resulting from the use of latrines. During the practice marches which are to be made from the Peekskill camp of instruction in the week beginning June 12th, no sinks will be dug, but instead light portable furnaces, in which almost any substance can be cremated in a few seconds, will be employed. If successful this system will very likely revolutionize military camps.

Another International Congress.—An international congress for childhood will be held in Buda Pest, Hungary, during the latter part of September, 1899. It will continue through five days, and there will be five sections. The medical section will be presided over by Dr. Bokay Janos. The questions proposed for discussion are: (1) The hygiene of the infant in the family; (2) the care of foundlings, morally abandoned children, or paupers; (3) the care of sick infants and of those with bodily defects; (4) places for play and recreation; (5) school hygiene; (6) the hygiene of minor children employed in factories and other establishments, and (7) alcoholism. In addition there will be sections having no immediate connection with medicine—judicial, pedagogic, charitable, and philanthropic.

Dr. Kohler's Paper on Tuberculosis. — At the International Congress at Berlin for the prevention and cure of tuberculosis Dr. Köhler stated that in Germany phthisis pulmonalis is responsible for 2.25 and, including various other diseases of the respiratory tract, which he considers generally due to tuberculosis, for 4 9, out of a total mortality of 21.8 per 1000 annually. Of the various countries of Europe, England, Belgium, the Scandinavian countries and Italy, show the lowest, and Russia and Austria, the highest mortality from consumption. In England, the actual death-rate is only 1358 per million, as

against nearly 4000 in Russia. Of the fourteen largest civilized cities in the world London has the lowest mortality from consumption, with the exception of Naples and Buenos Ayres, the highest mortality being shown by Moscow, St. Petersburg, Vienna, and Buda Pest. Statistics fail to show that elevation above the sea-level has any effect on the spread of tuberculosis, but the percentage is higher in towns and industrial districts than in the country. Tuberculosis is more destructive to males than to females, and, compared with other diseases, is responsible for the largest number of the deaths that occur between the ages of twenty and thirty.

American Medical Association.—The officers for the ensuing year are as follows: President, Dr. W. W. Keen of Philadelphia; first vice-president, Dr. Charles A. Wheaton of Minneapolis; second vice-president, Dr. E. D. Ferguson of Troy, N. Y.; third vice-president, Dr. J. M. Allen of Liberty, Mo.; fourth vice-president, Dr. W. D. Middleton of Davenport, Iowa; treasurer, Dr. Henry Newman of Chicago; secretary, Dr. George A. Simmons, editor *Journal of the American Medical Association*, Chicago; librarian, Dr. George W. Webster of Chicago; chairman of committee of arrangements, Dr. Philip Marvell of Atlantic City; trustees of the *Journal of the American Medical Association*, Dr. E. E. Montgomery of Philadelphia; Dr. H. L. E. Johnson of Washington, D. C.; Dr. C. A. L. Reed of Cincinnati. Judicial council: Dr. J. W. Griffith of Kansas City; Dr. J. E. Cook of Cleveland; Dr. J. H. Baillache of Washington, D. C.; Dr. J. B. Lewis of Topeka, Kan.; Dr. F. H. Wiggin of New York City. Address on general medicine at the next meeting of the Association, Dr. J. A. Witherspoon of Nashville, Tenn.; on surgery, Dr. W. L. Rodman of Philadelphia; on State medicine, Dr. Victor C. Vaughan of Ann Arbor. The place of meeting next year will be Atlantic City, N. J.

CORRESPONDENCE.

THE MEDICAL STUDENT ABROAD.

To the Editor of the MEDICAL NEWS.

DEAR SIR:—For years it has been more or less a practice among American medical men of means and ambition to pursue, after the usual medical education of this country, a period of post-graduate work in some of the medical centers of Europe. That there has been in the past even greater advantage in such a practice in broadening and impressing professional attainments there can be no doubt; but even at the present day, although American schools and American methods are well in the van of progress, much may be gained by even the best educated American physician through a careful comparative study of foreign work, foreign medical ways and manners of doing, and foreign ideas. If for no other reason the writer would wish that every American physician might go abroad to learn how really well American medicine and American institutions compare with the best abroad.

In many particulars America is distinctly in the lead; yet there are unquestionable advantages offered by this or that foreign center. Even were the advantages not as great the broadening of our field of vision by comparison of ideals among teachers, methods, and schools, will amply repay considerable time and sacrifice by its effects upon future estimates of such men and matters. Then, too, the general mental broadening and culture to be had by travel, by association with other types, constitute a most valuable addition to any man's education.

While the absolute necessity for it no longer obtains as it once did, there is sufficient general and special advantage in the tendency of our profession to thus flock to the older centers of medical and general education; and it is probable that for years to come there will be the usual number of Americans annually moving on the docents and agregé of Germany and France.

When should one go to Europe to obtain the best possible results? Of course one may obtain some advantage at any time; but unquestionably the more fixed the principles the more may time be devoted to the niceties and details, so readily acquired in such places as Paris, London, Vienna, and Berlin.

Surely such a professional pilgrimage had best be postponed after graduation until at least a full year's internship in a good hospital or several years' work in general dispensary and private practice has been experienced. These will have fixed one's basic data and will have brought forward one's deficiencies clearly, thus permitting a reasonable selection of the special character and amount of work required or desirable in European institutions.

One goes to Germany, Austria, France, or England, or to all if the time permits. If in the spring, one had perhaps best go to Germany for it is possible to find some place to work during all the summer in some of the smaller University towns, or even in Berlin for that matter.

If time be valuable it is well to push on to Vienna by the middle of September. One need not have letters in Vienna; but go to the General Hospital and watch for men who do not raise their hats in saluting; address them in English, for they are Americans (or Englishmen), and they will give all the information required about work desired. I believe that we Americans are greatly over-rating Germany and Austria, and that we are losing sight of Paris as a great medical center. We attach too much importance to the mathematical results of the Germans, results which are unfortunately often as fallacious as statistics. We fail to recall that France has produced more master minds in medical science than any other nation, and that the flocking of medical students from all over the world to Paris would indicate that in other countries at least Paris is regarded as the equal of Germany. Then, too, work in the hospitals in Paris is more useful to us, because the French, like the Anglo-Saxon, regard therapeutics as of very great importance, and the sentiment and desires of the patient count for something. When we come home to practise we want results, and neither we nor our patients can be satisfied by simply proving a scientific theory, with no consideration for the

future condition of the client. Another great advantage in favor of Paris is that one learns the language; a very valuable acquisition. In German countries many Americans never get beyond the essential dialogue with the "kellner," because the German teacher, who lives chiefly by American dollars, always knows enough English to satisfy his client; and the habit of monopolizing courses by small American syndicates makes it essential that the American student hold his American friends. Therefore, they speak English too frequently and German too little to learn the latter. I have known many American students to live in German countries for a year on a vocabulary of 100 words.

In Paris one does not need American friends; in fact is better off without them. Letters should have been obtained to Parisian doctors, and if ever needed, their help may be readily obtained; and the medical visitor will not find the hands of professors extended for guldens and marks. Any one may hear the greatest professors in Paris as easily as can the Matriculate of the University of Paris. Arrived in Paris it is best to go to a hotel in the Latin Quarter, a most convenient and congenial place in which to live. It will be well to get a "Guide Médical à Paris" from one of the medical book-stores in which the quarter abounds; after which it is the proper thing to take one's diploma to the secretary's office in the Faculté and ask for a student's card. This will give admission to any lecture, clinic, or demonstration given under the auspices of the Faculté. The card will not be asked for often (maybe never), but it is better to be armed for a possible demand. On Boulevard St. Germain No. 166, there is an excellent reading-room (Salle de Lecture of *La Médicine Moderne*), where all the principal medical journals of all countries may be had from 9 A.M. to 11 P.M.; and to which a permanent card of admission may be obtained on presentation of visiting or student's card. The library of the Faculté is open afternoons and evenings to every one.

If one does not know French on going to Paris it is best not to be too dignified. Students profit more by accepting the freedom accorded them in Paris; meals should be taken in some small restaurant and one should talk to his table companions. They are always agreeable and often quite useful, and one will find that in a few weeks he is speaking the language well enough to be understood, and understanding French quite well. Working in some special line one will naturally select places of study where such specialties are given prominence. One may obtain a desk in the Pathological Laboratory of the College de France on application and without cost except for materials used, where a microscope may be kept and opportunities afforded for any pathological or bacteriological work. This is a decided advantage for any one desiring to carry on laboratory work in connection with his clinical observation. A small fee to nurses and porters will obtain any material desired from clinics and post-mortem examinations. It is true that one has not the same facilities for work in pathological anatomy as in Vienna or some German towns, but the present attitude of Professor Brouardel, dean of the Faculté, will undoubtedly work an efficient change in that direction in the near future, his plan being to establish a pathological laboratory in every hospital in Paris. At present the laboratories in the Hôpital Necker, Hôtel Dieu, Salpétrière, Charité, Pitié, and St. Louis are well equipped, and privilege and admission to work may be obtained on proper introduction. The great demand on the Institute Pasteur makes it difficult to obtain a place in that institution, unless application is made at least a year beforehand; however, a strong letter to one of the directors will seldom fail to procure a place for an American. There is certainly no better course in bacteriological technic given in the world, and it goes over the whole field of theoretical, practical, and experimental bacteriology. It is conducted by the great masters Roux and Metchnikoff, and other specialists in selected subjects.

If one has not been able to obtain a place for work, the demonstrations and lectures may be seen and heard daily without any formalities whatever.

For one desiring experience in genito-urinary work a place with assignment to a table where treatment is executed under the direction of the Chief of Clinic may be easily obtained in Professor Guyon's out-clinic, where one may become familiar with the methods and practices of this great specialist at first hand.

The Salpétrière with its specialists for every branch of the science of neurology certainly cannot be excelled anywhere. In Charcot's clinic, conducted by Professor Raymond, the classical instruction instituted by the great master is still given in the same interesting manner. Here too one may follow the courses of Déjerine and the brilliant young psychologist, P. Janet, who conducts a clinical course in supplement to his classic lectures given at the College de France. Besides these there are a number of neurologists here and in other institutions who have made special and valuable study in various lines.

The St. Louis clinic and wards give one a superabundance of any variety of skin diseases, and the museum and library contain the finest collection of models and literature pertaining to this subject in the world.

In eye work students may obtain positions as assistants and places in the Pathological Laboratory under the celebrated oculist, Panas, in the Hôtel Dieu.

In the Hôpital des Enfants Malade one may find an enormous wealth of material in all children's diseases, including infectious diseases, with special instruction in intubation and laryngotomy.

Work in medicine, surgery, and gynecology is abundant and found in all the hospitals. The guide and bulletin of *La Médicine Moderne* give the exact hours of the lectures and the names of the lecturers in all the hospitals and institutions. Other places of equal and perhaps superior advantage may be obtained in some of the many institutions. I have simply named these as the first in my mind.

In Paris one has simply to follow the accepted methods on entering the courses; it costs nothing, but he cannot have the manner of instruction changed to suit his American ideas as he may in some of the German places. One must go along with the Frenchman in his ways, and if

one adapts himself to these easily he will obtain the best results.

WILLIAM GAMMON, M.D.

GALVESTON, TEXAS,
June 9, 1899.

OUR PHILADELPHIA LETTER.

[From Our Special Correspondent.]

THE QUESTION OF THE REMOVAL OF THE MUNICIPAL HOSPITAL—JENNER'S STAIN FOR BLOOD—FILTERS FOR THE PUBLIC SCHOOLS—LUCIEN MOSS HOME FOR INCURABLES — PREVALENCE OF CEREBROSPINAL MENINGITIS AND ENTERIC FEVER—CHANGES IN THE MEDICAL FACULTY OF THE UNIVERSITY OF PENNSYLVANIA—DR. S. WEIR MITCHELL.

PHILADELPHIA, June 12, 1899.

WHILE every one agrees that the Municipal Hospital for Contagious Diseases should be speedily removed from its present location in a built-up residence section of the city, the question of its actual removal excites such apprehension in the minds of the citizens in whose neighborhood it is proposed to build the new institution, that the problem seems no nearer solution than it has been at any time during the past two years, when the change was first seriously contemplated. This week a committee of citizens from the northwestern section of the city, where the Municipal Hospital is situated, was organized to urge its speedy removal from their neighborhood, but other committees are springing up with equal alacrity, to protest against its being situated in their part of town. Nobody wants the pest-house near them, and arguments and counter-arguments are launched with such rapidity by various interested citizens, that the authorities are bewildered, and hesitate to act. Meanwhile, the hospital continues its work of caring for the infectious and contagious diseases of the municipality as best it can, cramped as to space, ill-equipped in many ways, and altogether handicapped for the important work it was designed to perform. The only way to settle the question seems to be for the city to make up its mind to immediately purchase land in an isolated section of the city, unlikely to ever be used as a residence part of town, and to there erect a large and modernly equipped hospital for the reception and care of contagious cases.

Although announced in the *Lancet* some four or five months ago, by its author, but little attention seems to have been paid to the question of blood-staining by Jenner's method. The simplicity of the stain for clinical purposes, its wide range of application in hematology, and the dispensing with heat for fixing the blood-films, so important for rapid clinical work, should fully atone for the difficulties of its preparation. For the past two months Jenner's stain has been used in the medical clinic of the Jefferson Hospital, and in the laboratories of the German Hospital, for differential counting, with uniformly satisfactory results. The stain should be made as follows: *Solution A.* Eosin (water soluble) 1.2 to 1.25 grm., distilled water 100 c.c. *Solution B.* Methylene blue (zinc free) 1 grm., distilled water 100 c.c. *Solution C.* Solution A., solution B. equal parts. Stir thoroughly with a glass rod, and set aside for 24 hours. Filter, and dry the residue in an incubator. Scrape the residue off the filter-paper, and wash on the filter, after shaking up with distilled water. (The washing should be of a thin, dirty, purplish color.) Dry powder, and preserve in suitable bottles.

Solution D. (To be used for staining.) Powder from Solution C., .5 grm., methyl alcohol (pure), 100 cc. Mix and filter. To stain spread the blood-films in the usual way; dry in air, without thermic or chemical fixation; cover the film with the stain for from one to three minutes; wash in distilled water until the cover-glass is a faint pink color; and dry, mount in xylol balsam. The erythrocytes are colored terra cotta; nuclei of the leucocytes, blue; neutrophilic granules, red; basophilic granules, dark violet; blood-plaques, mauve; and all bacteria, malarial organisms, and the embryo of the filaria sanguinis hominis, blue.

Provision having been made by the City Councils to expend a sum of $37,000 for placing a system of filters in the public schools, the authorities are now engaged in considering the proposals which have been submitted to them for installing the apparatus. The provisions of the ordinance for the adoption of the new filters stipulate that they shall have the approval of the Board of Health, must be capable of removing ninety-five per cent. of bacteria from the water, and shall be subject to a rigorous practical test before acceptance. It is proposed to equip every school-house in the city with a complete set of apparatus before the opening of the next term in September.

Ground will soon be broken for the erection of the new building of the Lucien Moss Home for Incurables, a branch of the Jewish Hospital. The new building will be of fire-proof construction, four stories high, and built after plans secured in Berlin, of a famous German sanatorium. The institution will be ready for the reception of patients in the fall.

Inasmuch as the weekly statistics of the City Health Department, through the peculiar orders of the Director of Public Safety, are no longer available to the public, information concerning the prevalence of infectious diseases must be derived from the figures published monthly by the State Health Board. Last month's report from this body would seem to indicate that cerebrospinal meningitis prevails to a dangerous degree in this vicinity, there being 22 cases existing in this city at the time the report was made public, with a total of 14 deaths during the preceding four weeks. Enteric-fever cases numbered 412 for the month; of which 58 were fatal. Judging from the large number of yellow signs required by law on infected houses, one sees throughout the city, and from the recent decrease in the population of the public schools, scarlet fever and other infectious diseases are also numerous. According to unofficial newspaper reports, during the week ending June 10th, there were reported 95 new cases of enteric fever, with 21 deaths; 85 cases of diphtheria, with 12 deaths, and 21 cases of smallpox, without fatality.

As forecasted two weeks ago, the changes in the medical faculty of the University of Pennsylvania in consequence of the death of Dr. William Pepper, were officially declared by

the trustees during the present week. Dr. James Tyson has been elected professor of practice of medicine; Drs. John H. Musser and Alfred Stengel, professors of clinical medicine, and Dr. Gwilym G. Davis, assistant professor of applied anatomy.

Dr. S. Weir Mitchell, who has been absent in Europe for several months past, arrived in this city this week, and will immediately leave again for his summer home on the New England coast.

OUR LONDON LETTER.

[From Our Special Correspondent.]

CONGRESS ON TUBERCULOSIS — CONSULTATIONS BY WHOLESALE — AMBULANCE ACCIDENT EXTRAORDINARY — "DEATH FROM TIGHT BOOTS" — REDUCED DEATH-RATE IN INDIAN ARMY — CANARIES AND TUBERCLE — PSEUDO-TUBERCULOSIS — FAILURE OF THE INEBRIATES ACT.

LONDON, June 5, 1899.

THE principal medical interest of last week centered in the great Congress for the Prevention of Tuberculosis, which occurred in Berlin, opened by the German Secretary of State and attended by the Empress in person. Next to the Peace Congress it was the chief point of interest of the day in all circles, lay as well as professional. Much gratification and surprise, even in the profession, is expressed at the unexpectedly high standing of England in the geographical distribution of tuberculosis as set forth in Dr. Köhler's opening paper. Her death-rate is the lowest in Europe, and that of London the smallest of the fourteen largest cities in the civilized world, with the exception of Naples and Buenos Ayres, neither of which would really seem to have any right in the same class with her. This seems an emphatic refutation of the popular impression that tuberculosis is a disease of civilization, and as such, one of its necessary accompaniments. The real condition of importance is the type of the civilization and the *higher this is the lower will be the death-rate.* It is no mere coincidence that clean, sanitary England, densely populated as she is, heads the list, while filthy, undrained, unventilated, unwashed Russia, with her population scattered through a thousand reeking villages stands at the foot with nearly four times the death-rate.

There seems to be one city in England that can keep its hospital fund up to a successful level, and that is Birmingham. The results of her Hospital Saturday collections last year reached the handsome total of $88,000. But all success has its undesirable side and there are murmurs, not loud but deep, especially from the profession, that this victory has been won at the expense of an extensive "hospitalization" of the well-to-do working classes, who are being led to regard the hospitals as a sort of sick club, to whose advantages they may acquire a right by a subscription of a few shillings per annum. And flushed by its success the Fund Committee is proposing a new and hitherto unprecedented departure which has already brought a storm about its ears. This is nothing less than a sort of wholesale consultation company, by which it is proposed to bring expert medical opinions within the reach of the masses. The plan proposed is to hire two medical experts, a physician and a surgeon, at a proposed salary of $2500 a year each, furnish them with a joint office, and advertise "consultations at all hours" for the modest sum of half a guinea ($2.50) each. This astonishing scheme is calmly announced as "likely to yield a handsome profit," but if not, the still more astonishing committee that hatched it proposes to make good two-thirds of the deficit from the hospital fund!! Comment is superfluous. Not content with robbing the struggling young practitioner of his artisan practice, they would deprive him of the fruits of his hard-earned reputation for special skill in the shape of consultation fees. It is to be hoped that the scheme will fail of realization, if from no other cause, by inability to find men of any reputation and competence so lost to the sense of the dignity of their profession as to accept a position as hired consultant.

Much as the discovery of Koch's bacillus may have done for consumption it has certainly added a new hardship to the lot of the consumptive. From South Africa comes the news already familiar to us in California that employers of labor are refusing to engage consumptive applicants on the ground of danger to their customers or goods. Boarding-houses and hotels are objecting to receive them as inmates, and passengers are refusing to take state-rooms on board ships which are believed to have been occupied by tuberculous patients traveling in search of health. At this rate these poor unfortunates will soon become absolute pariahs and made to feel that their terrible disease is as much of a disgrace as of a misfortune.

Another painful illustration has just occurred of the singular tendency of officialdom, unchecked, to callousness, not to say brutality. A patient seriously ill with bronchitis and heart-mischief was ordered taken by ambulance to the hospital. The vehicle came in charge of an ignorant boy, with no assistant, and the poor patient was let fall upon the stairs in the effort to get him into it. Then it drove off at such a speed that in spite of the frenzied remonstrances of the victim's wife, who accompanied him, an attack of heart-failure was brought on by the jolting and the patient was dead when the hospital was reached. And the coroner's jury merely said that the ambulance-service was "*unsatisfactory*" and advised the supervisors to be more careful in future to send competent drivers.

The General Medical Council, the official High Court of the English profession, meets this week and as this is its first full session since the disgraceful Hunter case some stirring scenes are anticipated. The Penal Committee seems likely to be severely criticized, if not formally censured for its dishonorable zeal. Action will also probably be taken on the relation of the profession to friendly societies and sick clubs, for since the latter organizations, at their recent meeting, rejected the olive-branch held out to them by the profession, by absolutely refusing to fit any wage- or income-limit to their membership, it seems as if aggressive combination is the only hope of the doctor.

Truly the headline is a wonderful agent of science. The papers recently have had much to say under the gruesome heading, "*Death from Tight Boots*," which on inspection is found to be anent a man at Bradford, who was taken into a hospital for a varicocele operation. The operation was well borne and recovery rapidly progressing when his temperature suddenly rose, spasms followed, and death by tetanus closed the scene. Upon examination the operation-wound was found soundly and securely healed and no other lesion was found until after a careful search a small, partially healed ulcer on the dorsum of one of his toes was discovered. This, which had resulted from a tight boot, was believed to be the point of entrance of the tetanus infection. Cultures, however, from both this and the operation-wound yielded only negative results. The man was in perfect health, indeed was seeking operative relief from his varicocele to qualify himself for enrolment in the police force, to which this was the only hindrance.

Quite a hopeful and reassuring contribution to the tropical colonization problems of both Anglo-Saxon races has just been made by a report of the War Office here. In this the death-rate of the English Army of Occupation in India since 1840 is given and a most gratifying decline shown. Previous to 1857 the average rate was 60 per 1000 living per annum, simply murderous for vigorous male adults; in 1896 it had fallen to 14.8 per 1000, or less than one-fourth of the previous figure. This is about equal to the general mortality of a healthy country district, and only some 4 or 5 per 1000 above the ordinnary garrison rate at home.

A rather sensational article upon canaries as a source of tuberculous infection by Dr. Tucker Wise appears in the *Lancet*. Some thirty cases of such transference are described, but as the principal proof of connection in nearly all of them is merely the statement that birds were kept in the house its conclusiveness obviously leaves something to be desired, especially as he closes with the statement that experts estimate that 400,000 canaries are kept in England alone.

From New South Wales comes a cordial appreciation and corroboration of the work done by the pathological staff of our Department of Agriculture upon the nature and treatment of Texas fever. Indeed the new name of "Tick fever" is proposed for it in allusion to its means of spread, first discovered by our Washington investigators.

An important note has just been issued by the London Pathological Society upon the nomenclature of pseudo-tuberculosis. In accordance with the report of a special committee they recommend that in future the term "tubercle, ' as applied to anatomical lesions, be dropped and the term "nodule" substituted, reserving the term "tubercle" and "tuberculosis" solely in their clinical sense as designating the conditions resulting from infection by Koch's bacillus. By this change "tubercular" and "pseudo-tubercular" lesions of all sorts will simply be known as "tuberculous nodules," "glanders nodules," "aspergillus nodules," as the cause may vary. As there are no less than fifteen different forms of "pseudo-tuberculosis," and even four of five "pseudo-tubercle bacilli" this change would avoid much confusion.

A most suggestive study has just been made by Professor James Ritchie upon the relation between the activity of germicides and their molecular composition. He finds a curiously constant relation between the germicidal activity of elements and their atomic weights, the lighter, such as sodium and calcium, being almost inert, while the heavier, such as mercury and bromin, are extremely active. The same rule extends to their salts and to the salts of the organic acids which vary according to their molecular weights. Acids vary according to their chemical "avidity" or "displacing power." The increasing activity of the heavier elements is most significant when it is remembered that nearly all known elements can be arranged in a curious progression-series according to their atomic weights, which would again run parallel with their boiling-points and other characteristics.

Hull has just been suffering from an incipient smallpox epidemic brought there by passengers of the steamship "Port Darwin" from Alexandria. Thirty-seven cases in all occurred before the outbreak could be surrounded and stamped out by the health authorities. Only four patients died, three of whom were unvaccinated, and the only proof of vaccination in the fourth was a dim and not at all characteristic scar.

An unexpected danger threatens the London School of Tropical Medicine. It has been discovered by the energetic member that it is within hacking distance of his little hatchet. Last week in Parliament one of him solemnly rose and proposed that the School ought to undertake, at once, a study and explanation of the nature of arrow-poisons! The suggestion was taken under advisement and a week or so later the Colonial Secretary replied in the House, that inasmuch as only *one* case of such poisoning had been brought to his notice in the past five years, he thought there were other problems which might be regarded as more immediately pressing.

It looks seriously as if the Habitual Inebriates Act of last year, providing for their permanent detention in reformatory institutions after a certain number of convictions, were going to prove a failure. The sole cause is the unwillingness of county authorities to contribute the funds for their maintenance in such establishments. The magistrates are willing to sentence and various philanthropic organizations have supplied buildings in which they can be cared for, but the penuriousness of the county councils seems likely to block the reform, which was such a welcome concession to our professional view of drunkenness.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

DIFFICULTIES IN SWALLOWING AND THEIR AVOIDANCE — INJECTIONS OF GELATIN IN ANEURISM AND FOR HEMOPTYSIS—TUBERCULOSIS OF THE THORACIC DUCT AS A SOURCE OF MILIARY TUBERCULOSIS—LUPUS OF THE NOSE AND ITS TREATMENT BY HOT-AIR CAUTERIZATION — HEMORRHOIDS A GENERAL DISEASE—THE SPREAD OF ANCHYLOSTOMA DUODENALE.

AT the Union for Internal Medicine, April 24, 1899,

MENDELSOHN and GUTZMANN spoke of swallowing in the different positions of the body and its significance. Difficult swallowing may affect the prognosis in sickness by limiting the amount of nourishment received, by causing pneumonia, or even death in children, from inhalation of fluids into the bronchi, and by the increased blood-pressure caused by the coughing to expel foreign material. This may cause heart failure in cases of cardiac weakness, and aneurism or hemoptysis in pulmonary disease. Experiments showed that a normal soft palate and epiglottis can completely close the upper and lower air passages during swallowing, even though the act be performed when the patient is lying down or even standing on his head. The trouble experienced in swallowing in a horizontal position is not due to imperfect closure, therefore, but in part to attempts to breathe at the same time (and this may be avoided by forethought) and in part to the fact that the posterior part of the throat is far more sensitive than the sides and anterior portion, and hence reflex action is much more likely to follow if a person tries to swallow when lying on his back. The practical conclusion is that bedridden patients should swallow lying on the side, rather than in dorsal decubitus, even though the head be slightly raised.

FRAENKEL showed a patient with aneurism of the aorta whom he had treated by injections of a one-per-cent. solution of gelatin in normal salt solution. The injections were at first very painful, but the patient afterward became accustomed to them, and they were given twice a week. A two-per-cent. solution excited far greater pain. The results of treatment were gratifying. By the X-ray it was seen that there were two large sacs of the aorta, one of which had eaten away a spot in the sternum as large as a quarter of a dollar. After some weeks' treatment one of the sacs had disappeared entirely, the sternum no longer bulged forward, and pulsation was much less. During the whole time the patient remained in bed, but received no medicine.

KLEMPERER said that he had tried the method with two patients, but that one gave up the injections on account of pain. The second patient kept on until eight injections had been made, but the result was doubtful.

BURCHARDT had tried the injections in a number of patients for hemoptysis. None of them has as yet died, but he did not feel justified in saying that the injections had had any favorable influence upon them.

At the Berlin Medical Society, April 26th, BENDA showed two preparations of tuberculosis of the thoracic duct, as illustrations of his theory that tuberculosis of the thoracic duct is the source of miliary tuberculosis. As the tubercles in the duct in both cases were very abundant, and in various stages of development and decay, there seemed no doubt that they contained a sufficient amount of infective material to account for the miliary tubercles. The orgin of the thoracic tuberculosis was in one instance retroperitoneal lymph-glands, and in the other retroperitoneal, mesenteric, or mediastinal glands, all of these being affected with tuberculosis; but in neither case was there a direct spread of tuberculosis from an adherent gland into the thoracic duct.

HOLLAENDER denied that lupus of the nose leads to destruction of the organ. If left to itself it goes on to form tubercular spongy granulations, which, however, show no tendency to fall to pieces. Lupus of the skin rarely spreads to a mucous membrane, so that nasal lupus is almost invariably a primary affection. If the diseased area is small, excision is the best treatment. If it is more extensive it may be treated by Finsen's method or by that of Röntgen, or, as he preferred, by the application of hot air, a stream of air at 300° to 400° C. (572° to 752° F.) being directed upon the lesions. As a result the diseased tissue, with its contained bacilli, becomes necrotic and is cast off. A number of patients were shown who had been cured of extensive areas of lupus by this method.

LASSAR said that he had become very dissatisfied with the excision of lupus of the nose. Unfortunately, patients were not seen until the disease was well started, and when repeated operations had removed the whole nose and a new one had been built up, it too generally became affected by the lupus. The hot-air treatment he had used upon thirty patients during the past year, and he thought the possibility it affords of burning away the diseased tissues, while not disturbing the healthy ones, is a great therapeutic gain. The degree of cauterization which succeeds best must be learned by each operator. In the beginning he was inclined to go too fast. As a result deep ulcers were formed which took weeks to heal. The principle of heat can also be used in the thermocautery by passing the point close to the mucous membrane without touching it. The hot air is so painful that narcosis is necessary.

At the Vienna Medical Club, April 26th, FEDERN spoke of hemorrhoids and the predisposition to them. The ancient idea of hemorrhoids as a general disease to be treated by constitutional measures has given place to the idea that they are a local trouble to be cured surgically, and the good results which follow operations support this view. In the opinion of Federn these good results are rather to be attributed to the changed mode of life which follows such operations than to the operations themselves. The high tension in the blood-vessels is the real cause of the trouble. This produces congestion in the veins, and the well-known symptoms follow. Certain persons, either by heredity or otherwise, exhibit a predisposition to hemorrhoids, but without the high-blood pressure they would not develop them.

At the Imperio-Royal Society of Physicians of Vienna, May 5th, GOLDMANN related his experiences with anchylostoma duodenale. This parasite was originally confined to Brazil, India, Borneo, and Egypt, but at the time the St. Gothard tunnel was dug it was found to be the cause of the "tunnel sickness," and since that time it has been spread by the wandering of the mountaineers to almost all the mountainous districts of Europe. The symptoms of the disease were also spoken of. The prognosis is in general good, but is worse the farther north the patient lives. Extract of felix mas has been found to work admirably in expelling the worms, especially if given in divided doses, preceded by calomel, and followed

by calomel and turpentine. There are undoubted spontaneous cures, but on the other hand the parasite has been known to live for six years, and in cases of so-called spontaneous cures the eggs can usually be demonstrated in the stools of the patient.

SOCIETY PROCEEDINGS.

AMERICAN MEDICAL ASSOCIATION.

Fiftieth Annual Meeting, Held at Columbus, Ohio, June 6-9, 1899.

(Continued from page 752.)

GENERAL SESSION.

THIRD DAY—JUNE 8TH.

PROMPTLY at 11 A.M. the President called the meeting to order, and, as had been resolved the day before, announced the first business to be the reading of the report of the Board of Trustees, which had not been presented at the preceding general session because of the scanty attendance at the end of the session owing to the heat. Certain important business contained in it made it advisable that as many members of the Association as possible should hear and take action on it.

The minutes of the Association having been kept in the past irregularly, that is, without the order and signatures necessary to make them the valid minutes of the Association in a legal sense, and the fact that the secretary resided in one city while the *Journal* of the Association was published in another and distant city having led to delays in the publication of the official accounts of the proceedings of the Association, as, for example, those of the Denver meeting last year, the Board of Trustees, to whom a motion increasing the secretary's salary had caused the reference of the whole matter, thought it better to recommend to the Association the election of the editor of the *Journal* as official secretary, making him responsible for all the business connected with the office. The present secretary arose on a question of privilege, and explained that the minutes had been kept in accordance with the custom of his office, and the delay referred to last year had been caused by the dilatoriness of the chairman of a committee in sending in his official report. DR. HAPPEL for the trustees explained that there was no personal animus in the matter, and the only idea of the trustees was to establish a secretaryship that would at once facilitate the business of the Association and of its *Journal*, and at the same time make it responsible.

On motion the recommendation of the Board of Trustees that the editor of the *Journal* of the Association become the secretary of the Association without increase of salary was adopted.

The recommendation that a committee be appointed to codify the constitution and by-laws, and have them printed before the next meeting of the Association, was adopted.

The recommendation that a legislative committee be appointed composed of one member each from Washington, Baltimore, and Philadelphia, their expenses not to exceed $250, to be paid out of the funds of the Association on vouchers from the local member of the Board of Trustees for the district was adopted.

On motion of DR. HAPPEL of the Board of Trustees the retiring secretary, DR. W. B. ATKINSON of Philadelphia was placed in charge of the bureau of registration at the annual meetings of the Association. He shall be in attendance twenty-four hours before the opening of the annual meeting, and shall receive $100 in addition to his expenses for this work.

The Committee of Public Health reported that the outlook for the passage during the next year of a bill creating a Government department of Public Health, with a cabinet minister at its head, was excellent. They asked for the moral support of the members of the Association and their influence with their Congressmen and Senators. They also asked that $500 be appropriated to pay the expenses of a committee to properly urge the matter at Washington when the bill shall come up for consideration at the next session of Congress.

The Executive Committee reported as to the suggestions made by the president of the Association in his annual address.

First, as to the selection of a permanent meeting-place for the Association, Washington being suggested as the most likely place for the meeting; in the negative. The negative report was received with applause.

Second, that no clinics or entertainments shall be held at annual meetings that shall conflict with the regular business of the Association or its sections; reported favorably. On motion, the Association decided unanimously that such clinics or entertainments shall not be held in future.

Third, as to employing paid agents to solicit members for the Association; report unfavorable, as such means would be liable to secure an undesirable class of members.

Fourth, as to Government and State aid for the repression of tuberculosis; report favorable. On motion, the suggestion that a committee of five be appointed to draft a pamphlet setting forth the situation, to be sent to the President of the United States, to Congress, and the Governors and Legislatures of the various States was adopted.

Fifth, with regard to the repression of syphilis, the suggestion that the measures adopted by the congress on this subject to meet at Brussels next fall be carefully weighed by the American Medical Association, and the proceedings carefully followed by a special committee was accepted.

Sixth, with regard to vaccination it was decided to send to the various health boards of the country a pamphlet setting forth that it was the sense of the American Medical Association that compulsory vaccination was the safeguard of the country against smallpox, and as such must be fostered and enforced.

The special committee appointed to consider at the suggestion of a delegation from Philadelphia the question of the optician as a practitioner of medicine, reported that the proper fitting of glasses requires a knowledge of ocular pathology and therapy, and so must not be left to a mechanic, and that the American Medical Association

encourage by every means in its power the repression of the abuses that have crept in in this matter.

The report of the nominating committee was then adopted, electing the officers as given elsewhere in this issue.

A resolution was then offered deprecating the "leakiness" which this year had culminated in complete committeerial incontinence of the proceedings of the nominating committee before they had been presented to the Association, and making absolute secrecy obligatory on the members of the committee. On motion of DR. LOVE of St. Louis, who pleaded that the publication and discussion of the report before its presentation at the general session gave a favorable opportunity for the correction of errors, etc., the previous motion as to secrecy was laid on the table.

DR. J. C. WILSON of Philadelphia then delivered the address on Medicine[1]. Surgeon-General Sternberg then exhibited a series of stereopticon views illustrating the hospital-ships, hospitals, etc., of the Spanish-American War and since then, in this country, Cuba, Puerto Rico, and the Philippines.

Very striking views of the wards, the operating-rooms, and the arrangements of the various hospital-ships were shown and the fact demonstrated that the new problem of making a steam floating-hospital, with all the essential features of a modern hospital had been solved very effectually by the Medical Department. Transports were shown, the differences noted, and the fact that for these the Army Medical Department was not responsible but the Quartermaster's Department was brought out.

The present hospital at Camp Columbia, near Havana, at Ponce in Puerto Rico, and at Manila were shown, and it was made clear that the best possible arrangements, as far as climate and circumstances will allow, for the care of sick and wounded are in operation. The views of the convalescent hospital on Corregidor Island show an inviting place for patients to get well in, and illustrate the judicious care and solicitude that is directing present military medical affairs. All of these hospitals contain laboratories for the study of tropical diseases, so some progressive scientific work may be expected to issue from them as soon as conditions have become somewhat more favorable for study.

With regard to the employment of female nurses in the Army Medical Department General Sternberg took the occasion to remove a misunderstanding that seems to exist in many minds as to his position with regard to women nurses. He does not believe that they should accompany the column on the march when they are apt to be of hindrance rather than service, but just as soon as hospitals are established he believes that no better or more efficient aid could be found. Women nurses have done excellent work during the war. They were used in the first field-hospitals established and it is clear that they will be of service always if employed in hospital work.

SECTION ON PRACTICE OF MEDICINE.

SECOND DAY—JUNE 7TH.

The proceedings were opened by DR. ARTHUR ELLIOTT of Chicago who read a paper, entitled

TREATMENT OF THE HEART IN CHRONIC INTERSTITIAL NEPHRITIS.

The conditions met with are thickened and inelastic arteries subjected to the strain of a heightened tension, and a hypertrophied and sensitive heart-muscle. The patient is exposed to the risk of rupture of the vessels, and also to failure of the heart. Both the increased tension and the cardiac enlargement are compensatory, and any effort to qualify either may prove mischievous. There should be no intervention so long as there are no definite subjective symptoms. An increase of tension in the arterial system beyond the bounds of safety becomes manifest in dizziness, ringing in the ears, headache, disturbed cardiac action, fulness of vessels, occasional epistaxis, or it may be temporary emblyopia. A flagging heart shows in the soft, irregular, and frequent pulse. Dyspnea, post-sternal weight, and discomfort, cough on exertion, and diminished urine are additional signs.

All the small details and habits of the patient's life should be regulated, including the diet, clothing, exercise, and baths. The patient must be cautioned against heavy meals, and the regularity of the bowels must be scrupulously maintained, an occasional mild mercurial purge being administered. At the earliest signs of cardiac embarrassment some restriction in activity should be insisted upon and, when compensation seems threatened, absolute rest in bed must be enforced. The medicinal measures are at first limited to the vasodilators, the effect of the remedies being largely mechanical, dilating the capillaries, lowering peripheral resistance, and diminishing the work of the heart. To meet alarming symptoms a free catharsis is efficacious. Some preparation of mercury is to be preferred. To meet emergencies nitrite of amyl may be inhaled, but nitroglycerin is usually the drug of choice. Iodid of sodium and iodid of potassium, in 5- to 10-grain doses, given well-diluted one hour after meals, may be used. Heart tonics of the digitalis group should, of course, never be used during the stage of cardiac hypertrophy, being only admissible when there is indication of failing compensation. A vasodilator should be simultaneously administered in order to prevent the dangerous augmentation of the peripheral resistance.

THE TRANSMISSION OF SYSTOLIC MITRAL MURMURS, WITH SPECIAL REFERENCE TO THE NATURE OF THE SO-CALLED ANEMIC MURMURS

was the title of a paper by DR. HORACE B. ARNOLD of Boston.

He summarized his studies as follows: Mitral systolic murmurs may be heard not only at the mitral area at the apex and extending toward the axilla, but also at the mitral area in the back, along the left border of the heart, in the second left interspace, at the base, and at the "valvular" area. Anemic murmurs are not confined alone to the pulmonary area and second left interspace. They extend by varying gradations around the left border of the heart, to the apex, and to the mitral area in the back, thus gradually assuming the characteristics of a true mitral regurgitant murmur. The transmission to the

[1]See abstract in last week's MEDICAL NEWS, p. 717.

mitral area in the back may exist, whether the murmur is heard at the apex or not, and even in what appear in front to be typical anemic murmurs. We cannot find a dividing line between the so-called anemic murmur and the mitral murmurs. The presumption that these different gradations in the distribution of the murmurs all have a common origin is strengthened by finding these different gradations successively in the different stages of the same case. It is practically proved by finding all these gradations in healthy hearts which have been subjected to the same severe exhausting strain. Weakened muscular action of the heart exists in anemia as a result of poor nutrition. Weakened muscular action is an adequate cause for mitral insufficiency, whether dilatation exists or not.

DR. GEORGE W. WEBSTER of Chicago then read a paper, entitled

THE CAUSES AND DIFFERENTIAL DIAGNOSIS OF ACCIDENTAL HEART MURMURS.

Every theory in physical diagnosis should be the realization, not the violation, of a physical law. He argued that no single theory accounts for all accidental murmurs, and that it is probable that all accidental murmurs are, like those of organic disease, due to the production of "fluid veins." This may be due to temporary dilatation of the pulmonary artery, relative insufficiency of the tricuspid or the mitral valves, and possibly other causes. The diagnosis rests on: (1) The exclusion of organic disease as shown by (*a*) absence of a history of antecedent causal disease; (*b*) absence of the results of valvular defects as evidenced by hypertrophy and dilatation, or by broken or damaged compensation. (2) By (*a*) history of such disease or conditions as acute intoxications, chorea, the anemias, etc., with which these murmurs are frequently associated; (*b*) the characteristics of the murmur as shown by rhythm, point of maximum intensity, area of audibility, posture, exercise, etc.

He drew the following conclusions: (1) Accidental heart murmurs may occur when there is neither anemia nor fever, as in certain forms of intoxication. (2) Accentuation of the pulmonic second sound may occur in accidental heart murmurs. (3) An accidental murmur may be diastolic in rhythm. (4) The term "accidental" should be employed to designate all those cardiac murmurs which cannot after careful examination be clearly demonstrated to belong to the organic class, it being clearly understood that as our knowledge extends and increases the number of "functional" maladies gradually diminishes. The latter term is simply a cloak which covers up our lack of knowledge. True, the same may be said of the term "accidental," and yet there is this to be said in its favor: It commits us to no theory of causation, indicates no pathology, avoids a discussion of the question whether functional disturbances occur without pathological change, and, above all, it erects no barrier in the way of progress. (5) While I do not believe we are perfectly acquainted with all the physical conditions that can give origin to either cardiac or vascular murmurs, and while the error may be one of either observation or interpretation, I incline to the view that no single theory can be said to reasonably account for all accidental heart murmurs. I believe that there is a relative insufficiency of either the mitral or tricuspid valves, due to incomplete contraction of the heart, the latter due to degeneration, fatigue, or to the effects of toxic agents as in pyrexia, alcoholism, etc., and that under the circumstances the murmur may not vary in any of its essential characteristics of quality, pitch, and intensity or in point of maximum intensity and area of audibility from regurgitation due to organic disease at the same orifice. The vibrations accord with physical laws. Tricuspid regurgitation is probably of much more frequent occurrence than mitral. (6) The theory of Potain in regard to cardio pulmonary murmurs seems a possible explanation of some of the accidental murmurs. (7) In all cases of organic disease the vibrations originate in the fluid blood, due to the formation of "fluid veins." The theory that the accidental murmurs originate in vibrations in the walls of the vessels or of the cones, and are not communicated to the moving column of fluid, and so not carried by it, does not seem quite reasonable, but might serve to explain the limited area of audibility of some of these murmurs. (8) The wide diversity of opinion in regard to rhythm, point of maximum intensity, and area of audibility would seem to indicate careful, accurate observations improperly interpreted, or else an attempt to explain all accidental murmurs by one theory. (9) In many cases, especially of apex systolic murmurs, or in those heard over the body of the heart, a correct diagnosis cannot always be made without awaiting the results of treatment.

DR. GEORGE DOCK of Ann Arbor, Mich., read a very interesting paper on

THE USE OF QUININ IN MALARIA.

In the tertian or quartan intermittent, or any combination or duplication of these, quinin should be given in the decline of the paroxysm if possible, or not later than the end of the apyrexia. The difference depends upon the time the patient is seen or the diagnosis made. The dose should be given at one time or in parts at short intervals, in such a form that absorption may be confidently expected. He has found it very satisfactory to give the full dose in the form of the hydrochlorate, in capsules, followed by 15 drops of dilute hydrochloric acid. In patients who have been unable to retain other preparations he had been successful in giving three 5-grain capsules half an hour apart, with a small dose of dilute hydrochloric acid after each, with directions to repeat in half an hour if any dose was vomited. The question of quinin in malarial hemoglobinuria must be settled by careful clinical observation and experiment, and statements regarding it must be given credit in proportion to the accuracy with which the observations are made. In the meantime quinin can be used cautiously, if parasites are present, giving the drug in the form most likely to be absorbed, in doses within the limit of safety, and stopping its administration as early as the microscope shows this to be proper. A temporary increase in the severity

of the symptoms should not alarm the physician. It is necessarily due to the drug. At the same time the specific is being given other methods of treatment must not be forgotten. The quinin is given to check the malaria, not for any particular symptom or complication.

DR. G. A. FACKLER of Cincinnati, Ohio, read a paper, entitled

THE UNSATISFACTORY RESULTS OF THE HYPODERMIC ADMINISTRATION OF QUININ IN THE TREATMENT OF MALARIA.

He offered the clinical facts elicited by a review of twenty cases, confirming the cursory previous observations made as to the unreliability of quinin administered hypodermically in malaria. A general résumé of these 20 cases furnished the following data: Three cases in which quinin hypodermically was successful; 7 cases in which quinin by mouth was successful; 10 cases in which quinin by mouth was successful after hypodermic injection had failed. A total of 17 cases in which quinin by mouth was successful as a curative measure in the treatment of malaria. In only 3 out of 13 cases in which the remedy introduced subcutaneously was an abeyance of symptoms noted.

SYMPOSIUM ON PNEUMONIA.

DR. EDWARD F. WELLS of Chicago read the first paper, entitled

THE PNEUMONIA QUESTION; SOME INTERESTING CONSIDERATIONS.

In pneumonia the treatment should resolve itself into reasonable prophylaxis; in making the patient comfortable; in preventing excessive formation of toxins, in neutralizing them, in encouraging their elimination and increasing the resisting powers of the system against their action; in preventing, or managing properly, the complications which may arise. Bleeding in this disease as a remedial resource he did not believe had any substitute. Venesection should not be performed, as a rule, in the very young or the aged, the weak or anemic, nor in cases where the evidences of obstruction of the pulmonary circulation, or of increasing toxemia is present. Simultaneous with the venesection, or immediately after a solution, in distilled water, of chlorid of sodium, 7 per cent., chlorid of potassium, 23 per cent., and chlorid of calcium, .03 per cent., is injected subcutaneously in quantities appromimating that of the amount of blood withdrawn. The speaker believed that the immediate future would demonstrate pneumonia to be, certainly, a preventable and, largely, a curable disease.

DR. ROBERT H. BABCOCK of Chicago followed with a paper, entitled

PNEUMONIA IN THE AGED.

He considered pneumonia in the aged as being more frequently lobar than catarrhal. Its symptomatology is often unlike the typical form, and may be said to constitute a form of its own. The physical signs are often obscure, and the diagnosis often depends upon history and the symptoms. He emphasized four points, *viz.:* (1) It was his conviction that aged pneumonic patients bear well and require large doses of strychnin. (2) Stimulants, as alcohol in small or moderate doses, and ammonia in frequently repeated doses, are usually highly beneficial. (3) As little medicine as will meet the indications should be given for fear of upsetting the stomach, and thereby destroying what few chances the patients have at the best. (4) Because of the tendency to renal insufficiency the nourishment should be largely fluid, and nothing is so suitable as milk and properly prepared beef-juice.

DR. H. A. HARE of Philadelphia next read a paper, entitled

THE TREATMENT OF PNEUMONIA.

When called to care for a patient through an attack of illness, especially pneumonia, the physician should be a watchman all the time, and a therapeutist only when necessity arises. In all infectious diseases, especially croupous pneumonia, the patients may be divided into three classes: (1) those who are so mildly ill that all they need is good care and little or no active treatment; (2) those who are so ill that nothing can be done which will bring about a cure; (3) those cases which lie between the two, and which are capable of cure but only when the individual is aided by the most skilful treatment. As to the use of the abortive treatment by the use of bleeding or circulatory sedatives, such as aconite and veratrum viride it is evident that few patients can receive this treatment, because only a few patients have a sufficiently bounding pulse to justify its use, and few are seen early enough to be benefited by it. When consolidation has taken place one should attempt to prevent the hyperpyrexia by cold sponging with friction, and the use of the ice-bag over the heart and to the head. Ice to the precordium slows the heart and protects it perhaps from the ill effects of the fever. Ice to the head diminishes the pain and keeps the mind clear and controls the temperature. The antipyretic drugs are of use in that they allay nervousness, and not because they reduce the fever. If any one is tempted to give a patient stimulants, and before doing so feels his own pulse he will sometimes be surprised to find that his own is the weaker. Digitalis often fails as a stimulant because it loses much of its regulating power over the heart in the presence of high fever. It acts better when the temperature is reduced by hydrotherapy. If the pulse be gaseous and relaxed belladonna in 5 to 10 minim doses, every four or eight hours, may be useful. Strychnin goads the system to increased endeavor, and is especially of use when the patient seems to be sinking into the slough of death. The value of nitroglycerin seems to be in direct proportion to the degree of arterial tension. The value of oxygen is problematical. This disease cannot be treated by any routine method.

In the discussion of these papers DR. J. H. MUSSER of Philadelphia said that he felt sure that pneumonia has been taken out of the category of lung diseases and now is considered as belonging to the infectious diseases. From its clinical course pneumonia is considered a systemic disease and no longer a local one. There are many cases which begin with chills, fever, vomiting, and abdominal pain which is localized about the seat of the appendix, and sometimes it has been said that the patient

was suffering from appendicitis. In a great majority of the cases pain located in the upper part of the abdomen is misleading. One must not be misled by the severity of the symptoms. Too much stress cannot be laid upon the occurrence of peritonitis during the course of this disease. It is too often overlooked on account of the insidious development of the complication. Regarding the treatment he advised cupping freely and continuously; cup in the morning and evening and the next day. Cold compresses should be used; they should be wrung out of ice-water. When the temperature is not above 102° F., and when there is no general infection or marked evidence of toxemia, it is probably not necessary to use these applications. The effect of this is upon the circulation and the nervous system. He was convinced that toxic symptoms are controlled by the use of cold. He never gives aconite or veratrum viride and never finds it necessary to use cardiac sedatives. Large amounts of water should be given. He has used strychnin and nitroglycerin but has had no experience with digitalis in the treatment of pneumonia.

DR. STOCKTON of Buffalo confirmed the statement made, that leucemia does not always mean that a fatal issue is to be expected. In one case he noted there were no more than 6000 leucocytes counted and the patient recovered. This case was an extraordinary one in that there was a relapse—the only case of relapse the speaker ever saw. It was one of lobar pneumonia and the child sustained three relapses. The late Dr. Flint stated that this disease was one in which there is no relapse. The speaker had stated to his class that patients may die of lobar pneumonia and yet not have any inflammation of the lungs. He had seen two patients approaching death in whom no pneumonia could be made out; one was a case of the lobar form but showed no evidences of it until the sixth day, and the patient died on the seventh.

Regarding the treatment of pneumonia some cases he had seen were cases of toxemia, and one man was so discolored that he appeared as one bitten by a serpent; there was vasomotor paresis and evidences of the most serious process. Death took place in the beginning of the disease, and it was practically one from toxemia. He wished to emphasize the fact that pneumonia is a toxic disease and the treatment should be directed toward opposing the toxic condition. Large doses of alcohol he deemed of more importance than any other stimulant. Strychnin, in doses of $\frac{1}{20}$, $\frac{1}{15}$, or $\frac{1}{10}$ of a grain, given hypodermically, and until there is no longer any vasomotor paresis, he thought would rescue patients from death when attempts by any other means would prove futile.

DR. GEORGE DOCK said that he wished to voice the opinion already expressed regarding the value of strychnin in the later stages of pneumonia when given judiciously. This also applies to the use of alcohol. He spoke highly of the use of ice-bags in cases of frank croupous pneumonia. Formerly he treated these cases as he did typhoid fever, *i. e.*, with the cold bath, but this is difficult to carry out although the method is valuable. Two years ago he began to use ice-bags and his results have been good.

DR. A. M. HOLMES of Denver spoke of the influence of altitude in these cases. Denver is one mile above the sea level, and the celebrated Cripple-Creek region is higher. At this place there is a great and rapid increase in the population and a great deal of exposure and much pneumonia in consequence. The mortality-rate is very high, and it is now customary to send the patients to a lower altitude as soon as a diagnosis of pneumonia can be made.

DR. J. M. ANDERS of Philadelphia said it had recently been pointed out that while the mortality-rate in typhoid fever, diphtheria, and other acute infectious diseases has been decreasing, that of pneumonia, unfortunately, has been increasing during recent years. All bacteriologists and clinicians agree that pneumonia is due to various toxins. The pneumococcus is present in about ninety per cent. of all cases, and the pneumococcus alone in about seventy-five per cent. of the cases. In many instances it is a mixed infection. It is a well-known fact that these micro-organisms have a direct bearing upon the course and prognosis of the disease, also upon the treatment. One cannot expect to obtain good results from pneumococcic serum when there is a streptococcus infection. He had found a moderate leucocytosis during the pseudocrisis which occurs about the fifth day of the disease. He had observed that in two cases it occurred in the streptococcus infection rather than in the pneumococcus infection. During the past winter he saw a case of influenza in which pneumonia developed as a complication. The sputum in this young man was examined, and he failed to find any recognized pathogenic organism, so it probably was a pneumonia due to an organism other than the pneumococcus or streptococcus.

SECTION ON DISEASES OF CHILDREN.

SECOND DAY—JUNE 7TH.

DR. E. E. MAYER of Pittsburg, Pa., read a paper, entitled

HYSTERIA IN CHILDREN.

Hysteria is not so uncommon as formerly thought; the Children's Crusades, the dancing manias of the middle ages, and the story of the Pied Piper of Hamlin, show that it has always existed. Anglo-Saxons are not so free from it as has been supposed, and their comparative freedom from it is due to our better methods of training than to any special absence of heredity. The disease is psychical, but is modified by the physical conditions. One authority has said that he has never seen hysteria without chlorosis. This psychic element is most important. Imitation of neurotic conditions in parents is of etiologic import. The diagnosis of hysteria in children is not easy. The ordinary stigmata of the disease, the anesthetic patches of skin and of fauces, the concentric narrowing of visual fields, are not usually present. The affection often runs a non-symptomatic course. The variability of symptoms, however, and the suggestibility of the patients makes the diagnosis comparatively easy after study of the case. In the so-called hysterical palsies the gait is jerky, not hesitating; it is not weakness

but over-action of muscle that is noted on movement. Patrick has shown that the limits of the anesthetic and hyperesthetic varies almost from minute to minute. The treatment of hysteria in children is moral. Underlying physical conditions must be treated in the usual way, but parents must be impressed with a proper sense of responsibility and made to train their children so that their emotional side does not run away with them, but no corporal punishment must be employed. The prognosis is better than in hysteria in older people, but great firmness is necessary in not yielding to the child in the slightest degree. For this reason the specialist often succeeds where the family physician fails.

DR. SLAGLE of Minneapolis said that ideopathic hysteria, *i.e.*, hysteria without a physico-pathological factor is not common in children. Secondary hysteria, especially in members of neurotic families, is quite common. The treatment, of course, is to rule the exaggerated nervous symptoms, but primarily to treat the underlying condition of anemia, indigestion, constipation, and the like. Look for the physical cause; it is not easy to find. Dr. Slagle has seen hysteria develop in children while he was administering strychnin even in minute doses.

DR. GARRISON said that she has seen hysteria develop in nervous children while taking strychnin as a tonic.

DR. ROSA ENGELMAN of Chicago said that hysteria in children, because of its difference from hysteria in the adult, is difficult of diagnosis. Some of the manifestations of it are most surprising. She has a case under observation in which polyuria is the prominent symptom. At one time, for days, thirty pints of urine were passed, and the polydipsia kept the child from sleep. That is over a year ago, yet the child is still passing six pints of urine daily. There is no sugar and no other abnormal constituent. The malarial organism was found in the blood, and the malarial toxemia was concluded to be the pathological basis on which the hysteria rested.

DR. C. G. SLAGLE of Minneapolis read a paper, entitled

INFANTILE CONVULSIONS; THEIR CAUSE, NATURE, AND MANAGEMENT.

He said that a neurotic constitution nearly always precedes convulsions, and that there is such a thing as a convulsive temperament which is inherited. Nearly always irritation of the digestive tract is the cause. It must be borne in mind, however, that mothers' milk may prove the irritant more than once. He has seen convulsions succeed applications to the breast within an hour under circumstances that excluded other conditions. For treatment during the convulsion, if severe, an anesthetic should be used, then an emetic, and after that a calomel purge.

DR. COTTON of Chicago said in discussion that he reported last year at Denver some fifty cases in which coitus, excessive or prolonged, had caused deterioration of the mother's milk, producing irritation of the gastro-intestinal tract in her nursling. He has now had some seventy cases in which he believes that this cause has been at work in making the breast-milk noxious to children. This certainly deserves careful investigation.

DR. EDWIN ROSENTHAL of Philadelphia read a paper, entitled

TREATMENT OF SEPTIC CONDITIONS IN CHILDREN.

Dr. Rosenthal recommends local applications as preventives of general infection, especially the use of antiseptic poultices and of 30-per-cent. ichthyol ointment, with lanolin as an excipient, when the first sign of an inflammatory process is seen. For well-established infection antistreptococcic serum is very effective and produces marvelous results.

DR. DILLON BROWN of New York said that antistreptococcic serum cannot be effective in general septic conditions because we have not, in these cases, simple toxemia, with toxins in the blood, but the bacteria themselves are present in the blood and against them the antitoxin can do nothing as it is not antiseptic.

DR. BLECH of Chicago said that another reason why antistreptococcic serum is not effective is that a mixed infection frequently is present besides the streptococcus, the various forms of streptococci, and other pyogenic micro-organisms. Against their toxins the streptococcus antitoxin has no effect.

DR. ROSA ENGELMAN of Chicago said that the antistreptococcus serum is necessarily made from one form of streptococcus while a number of forms exist, and it is not easy to differentiate which special variety is at work. The different forms are variously virulent too, so that too much assurance of success cannot be founded on the use or any special serum.

DR. COTTON of Chicago said that antistreptococcic serum produces marvelous results in certain cases, though it utterly fails in others. Our clear duty in the matter is to use the remedy in every case where streptococcic infection is suspected.

DR. GUSTAVUS M. BLECH of Chicago read a paper, entitled

COMPARATIVE THERAPEUTIC VALUE OF RECENT ANTISEPTICS IN PEDIATRIC PRACTICE.

He considers that four forms of antiseptics are feasible, for the urinary tract, for the respiratory tract, for the intestinal tract, and general antisepsis. For the urinary tract he has found urotropin most useful and it has none of the irritating properties of some urinary antiseptics, and besides its use does not interfere with local treatment of the bladder.

Guaiacol carbonate is an excellent respiratory antiseptic for use in various forms of bronchitis. It does no good in pulmonary consumption, however, for which he considered Kleb's tuberculocidin to be practically a specific in the first and second stages.

As an intestinal antiseptic eudoxin has proven the best in his hands. It is split up in the stomach into bismuth suboxid and nosophen, and the nosophen is an excellent practical intestinal antiseptic. As a general antiseptic compounds of iodin and silver are available. Of these, iodin, that God-given drug, as some one has called it, is the best. Two of the recent forms in which it is employed, antinosin and nosophen, do not free nascent iodin when in contact with the tissues and hence

are good unirritating antiseptics, locally or internally, never producing symptoms of iodin intoxication.

Dr. Cotton of Chicago has also used eudoxin, and has been pleased with his results, and expects to use it even more freely in the future.

Dr. Slagle of Minneapolis considers that there are but three intestinal antiseptics that are effective—calomel, sulphur, and sulphite of soda.

Dr. Rosa Engelman of Chicago read a paper, entitled

MEMBRANOUS TONSILLITIS OF INFLUENZA AND ITS BACTERIOLOGICAL LESSONS.

It has been known for some time that in addition to the diphtheria bacillus other micro-organisms, notably the streptococcus, can produce a membrane in the throat. The pseudo-diphtheria bacillus can very probably also produce a membranous deposit. It was not until the investigations of the Chicago Board of Health last winter that it was known that there is a diphtheritic form of influenza. In a number of cases where there was a membranous pharyngitis, but the clinical symptoms, if the disease were to be considered diphtheria, were anomalous, the influenza bacillus of Canon and Pfeiffer was found in the lesions.

This emphasizes the necessity for bacteriological diagnosis of all throat conditions. Incidentally it may be remarked that diphtheria and influenza may occur simultaneously, or diphtheria may begin in a mixed infection. Cultures from throats of patients in Chicago last winter that at the eighth hour were surely diphtheria bacilli, at the twenty-fourth hour were completely overgrown by the diplococcus lanceolatus. It is necessary to follow cultures from hour to hour in order to be sure what micro-organisms are present.

During epidemics of influenza a number of suspicious cases of diphtheria will prove to be grip. It is true that there is a pseudo-influenza bacillus described by Pfeiffer which also produces a pseudo membrane in the throat. To distinguish this the most careful bacteriologic diagnosis is necessary.

Dr. Cotton of Chicago said that for the practitioner when there is doubt as to the nature of the process in the throat, it is advisable to treat it as if it were diphtheria. Diphtheria antitoxin can do no harm, and it will always do good if there is any diphtheria present.

Dr. Rosenthal of Philadelphia thought that the influenzal membranous tonsillitis can be distinguished macroscopically from that of true diphtheria by the fact that it has a more granular look, and is less evenly distributed over the surface of the tonsils.

Section on Neurology and Medical Jurisprudence.

First Day—June 6th.

The Chairman, Dr. Frederick Peterson of New York City, presented the annual address. He spoke of the impossibility of touching upon all the recent advances in neurology and psychiatry. In one subject alone, the cytology of the nerve-cell, it would be necessary to examine 400 different contributions, books, and journal articles by 280 authors in order to write an exhaustive critique. He presented a bibliography of neurology and psychiatry and allied subjects for the year 1898 and the early part of the year 1899, limited to books of more than fifty pages, including 201 works in all. He referred especially to "Die Psychiatrische Clinik zu Giessen," published in Berlin during this year, describing a psychopathic hospital in a German city on the community plan, containing laboratories for pathologic, microscopic, chemical, photographic, and psychophysical work, besides a mechanical workshop, clinical auditorium, library, and polyclinic or dispensary for out-of-door patients.

Dr. John Punton of Kansas City, Mo., presented a paper on

THE RELATIVE CURABILITY OF NERVOUS DISEASES AND THEIR THERAPEUTIC INDICATIONS.

The relative curability of any given nervous affection is based upon the accuracy of its early diagnosis. To this end there should be an accurate scientific classification of diseases of the nervous system, dividing them into two great classes, organic and functional. In the cases covered by the first class the nervous elements are not, as a rule, primarily affected, but are so secondarily. As to the second class, the chief lesions affecting the nervous apparatus can be arranged under six groups, namely, vascular, inflammatory, degenerative, toxic states, congenital malformations, and functional or unclassified lesions. In the last group are included hysteria, chorea, neurasthenia, paralysis, catalepsy, epilepsy, etc., and by reason of the purely subjective character of their clinical phenomena, their diagnosis is often very obscure and misleading. The statistics and authorities as to epilepsy, for example, are utterly at variance. It is highly desirable that a text-book authorized by this or some competent association be furnished the medical profession in which is set forth reliable data based on actual facts as demonstrated by practical clinical observation and experience in order to prevent the fraud and deception now practised on the helpless neurotic incurable by those claiming to have a "sure cure for fits."

Dr. T. D. Crothers of Hartford, Conn., read a paper on

THE MEDICAL SIDE OF CRIMINAL MORPHOMANIA,

which was followed by one on

A RATIONAL TREATMENT OF CHRONIC MORPHINISM,

by Dr. A. J. Pessey of Cleveland, Ohio.

Dr. Crothers spoke of the physiological action of opium and its alkaloids in causing "palsy of the higher psychical centers," temporarily destroying the former personality of the patient and causing him to act from a different point of view. He related a number of instances in which the morphin-taker had been guilty of various fraudulent and secretive crimes, displaying a cunning, judgment, and apparent honesty in avoiding discovery, so long as not deprived of the drug, but breaking down completely and showing marked mental aberration when the morphin was taken away. These cases included arson, dishonesty, speculation, forgery, false impersonation, and

all sorts of swindling. Morphin criminals are regarded as most dangerous by the police, having full control of their nerves and acting a double part so clearly as to disarm suspicion. Cases of will mania, delusions of sudden death, etc., are among the mental results of the use of morphin. A new personality appears; some psychic trance state, in which great mental clearness, self-possession and cunning, with unusual frankness and candor are the prominent symptoms. There should be an exact study of the criminal side of morphin cases.

Dr. Pressy's treatment of morphinism is by the gradual withdrawal of morphin until it is only given in infinitesimal doses, the patient being unaware that the amount is being reduced. The patient is usually taking more than is necessary to produce the desired results, and the dose can usually be markedly reduced at the start. The patient is kept on as small a quantity as will make him comparatively comfortable, without making his dose so small as to keep him in misery until the next hour for morphin. The doses are given four times a day just previous to meals and bed-time.

DR. CHARLES H. HUGHES of St. Louis said that as to treatment, the safe rule is to endeavor to gage the dose according to the capacity of the patient for reduction.

DR DANIEL R. BROWER of Chicago said that morphin, very much more than alcohol, disturbs, deranges, or alters the personality. He thought that morphin patients can be treated very successfully in hospitals.

DR. E. S. PETTYJOHN said that under the influence of morphin doctors of divinity are just as prone to tell what is not true as any one else. He advocated continuing the small doses for a somewhat longer time, cutting them down to $\frac{1}{10}$ or $\frac{1}{20}$ of a grain.

DR. HAMLIN of Tennessee agreed with Dr. Pettyjohn and said that the dose should be even cut down at the last to $\frac{1}{32}$ or $\frac{1}{64}$ of a grain. He related the case of an intelligent, well-bred Southern woman, who secretly contracted the morphin habit and, being accidentally deprived of the drug, one night went entirely mad and was found wandering on the streets of the city, attempting to sell her virtue to a druggist for a dose of morphin.

DR. TUCKERMAN of Cleveland suggested that there are many cases of morphinism which must be treated by the general practitioner, as it is impossible for the individuals to go to a hospital. He related the case of an opium fiend in a private family who was treated by a mixture of opium and thoroughwort, the proportion of the former being gradually reduced.

DR. A. E. STERNE advocated the immediate withdrawal of the drug, in the absence of any contraindications, the unpleasant symptoms being obviated by the use of bicarbonate of soda to relieve the acidulous condition of the system.

DR. WILLIAM N. BULLARD of Boston, Mass., presented a paper on

RELIEF OF INTRACRANIAL PRESSURE IN NON-TRAUMATIC CASES WITHOUT LOCALIZING SYMPTOMS.

Trephining is often advisable in cases of increased intracranial pressure when the cause of such increase is uncertain. A married woman, aged thirty-eight years, the daughter of a nervous invalid, applied for operation to relieve the intolerable condition of her head. For years she had been subject to a sensation as if the brain were being compressed. There was no evidence of any affection of the optic nerve. The cranium was trephined on the right just in front of the coronal suture and about an inch below the sagittal suture, and the button removed. The dura was very tense, bulged, did not pulsate; the cranial opening was enlarged, and the dura cut. The brain, which was very blue, protruded an inch or more beyond the cranial opening, suggesting very marked intracranial pressure. The protruding portion of the brain, which was 2 x 3 inches in length and breath and an inch or more in thickness was cut off and the wound closed without stitching the dura. The patient made an uninterrupted recovery, and since the operation has had no recurrence of the symptoms. A year after the operation she became the mother of a healthy child, her first, though she had been married for more than ten years.

Dr. Bullard's conclusions were as follows: (1) There exist certain non-traumatic cases of increased intracranial pressure of unknown or doubtful origin. (2) Whenever an excess of intracranial pressure exists such as to cause serious symptoms, the question of its relief by opening the cranium and cutting the dura should always be considered. (3) In certain non-traumatic cases of excessive intracranial pressure more or less permanent relief, or even cure, may be obtained by proper surgical interference. (4) In cases of acute severe optic neuritis of unknown origin the question of opening the cranium and relieving the excessive intracranial pressure should be considered.

DR. W. A. JONES of Minneapolis, Minn., spoke of a case of injury followed by mild optic neuritis, mild hemiparesis and hemianesthesia, which, with a great deal of headache, seemed to demonstrate the probability of an acute pressure either from abscess, tumor, or something of that sort. On trephining nothing but a very small quantity of fluid was found, but there was a perfect recovery, and all the subjective and objective symptoms disappeared.

DR. TUCKERMAN of Cleveland related an instance of a young woman with symptoms similar to those of Dr. Bullard's patient, who was relieved by exploratory trephining. The brain did not bulge; the dura was not opened, but was adherent to the skull very firmly under the site of an old injury, and the skull was somewhat thickened. An opening of about an inch and a half was made, and a gauze drain inserted. There was a free seepage of cerebral fluid for three or four days. The headache, the sleepy symptoms and the convulsions from which the child suffered disappeared very promptly.

DR. FISHER said he understood from Dr. Bullard that the button was not replaced, and thought that was the reasonable course to pursue. Cutting away portions of the brain could not, of course, be indiscriminately done.

DR. TOMLINSON thought that if there is a general pressure, giving rise to generalized symptoms, there is just as obvious a reason for the operation as in tumor, abscess, or local accumulation of fluid, the object in each case being to relieve the pressure.

DR. BULLARD, in closing the discussion, said that curiously enough in his case there was no excess of fluid found underneath the dura, nor did the specimen of the brain show anything peculiar under microscopical examination. There were none of the symptoms of grand hysteria in the case, nor was there any shock following the operation.

SECOND DAY—JUNE 7TH.

The entire day was given up to a

SYMPOSIUM ON HEADACHE.

The following papers were read:

"The Diagnostic Importance of Headaches," by DR. FISHER. "The Headache of Gastro-Intestinal Disorders," by DR. FRANK BILLINGS of Chicago. "Headache Due to Affections of the Eye," by DR. SAMUEL D. RISLEY of Philadelphia. "Migraine," by DR. SAMUEL J. WALKER of Chicago. "The Relation of Uric Acid to Migraine," by DR. JOHN A. LICHTY of Clifton Springs, New York. "The Mental Element in the Treatment of Headache," by DR. PHILIP ZENNER of Cincinnati.

Dr. Fisher's paper dealt with the distinction between so-called continuous or constant headache and the paroxysmal headache, the former being present in Bright's disease, nephritis, and arterial disease. Of course even in the cases of continuous headache there are occasional exacerbations.

Dr. Billings maintained that gastro-intestinal disturbance is a very common cause of headache. The treatment is by the application of the laws of hygiene, modified to suit the individual case; a selected diet for each individual, the free use of water as a diluent, and recreation in the form of physical exercise or physical rest commensurate with the mental activity or physical tire of the individual. These he advocated in connection with the correcting of irregular habits of sleep, of time of taking food and of exercise, the withdrawal of tobacco, tea, coffee and alcoholic drinks, lavaging the stomach when necessary, and overcoming the constipation by hygienic measures, if possible without drugs. In conditions of malnutrition and anemia, restorative tonics and an abundant simple diet are indicated.

Dr. Risley's conclusions were as foliows:

1. Abnormalities of the ocular apparatus are in a large group of patients the sole and sufficient cause of headache.

2. These abnormalities of vision may be the unsuspected cause, and therefore, the absence of symptoms obviously referable to the eyes does not exclude them as an etiologic factor in headache, insomnia, vertigo, petit chorea in children and certain stomach derangements.

3. The recent or sudden development of symptoms, *e.g.*, after attacks of severe illness, as typhoid fever, the exanthemata, etc., or in association with more or less acute exacerbations of some general dyscrasia, is not sufficient evidence against ocular participation in causing the symptoms.

4. The participation of the eyes as an etiological factor in headache can be positively excluded only in the absence of ocular diseases or after the most painstaking correction of any existing error of refraction or abnormality of binocular balance.

5. For the relief of reflex symptoms, accurate corrections are essential, and these can be secured only by the more or less prolonged use of a strong cyclophlegic.

6. Immediate relief by these corrections in a large group of patients is not to be expected since the pain is frequently due to associated pathologic conditions of the fundus oculi and these require time for cure.

Dr. Walker of Chicago in his discussion of migraine, detailed a number of cases coming under his own observation and seen in the practice of Dr. Hugh T. Patrick, and noted an apparent relation, which he did not attempt to define, between migraine and epilepsy.

Dr. Lichty of Clifton Springs, in speaking of migraine from the uric-acid standpoint, presented studies of the uric-acid conditions in three cases of migraine. Both uric acid and urea were diminished during the height of the headache, but their relation was not disturbed. After the headache, the urea increased to about what it was between the attacks, while the uric acid increased much more, thus changing the former ratio. Dr. Lichty concluded that the increase of uric acid which is associated with migraine is the result, and not the cause, of the headache. He referred to Gowers' statement that "When all has been said that can be, mystery still envelops the mechanism of migraine."

Dr. Philip Zenner, in his article on "The Mental Element in the Treatment of Headache," referred to cases in which patients suffering from brain tumors were compelled to undergo gynecological operations, which were followed by complete relief from headache. This was attributable to the mental impressions produced by the operations.

The discussion of these papers was opened by DR. NORMAN BRIDGE of Los Angeles, Cal., who said he did not believed that there is any relation between migraine and uric-acid diathesis. He suggested that in order to explain Dr. Zenner's cases it was not entirely necessary to assume that the surgical operations relieved the headaches by mental impression, as we know that surgical operation does interrupt various nervous phenomena, owing to the chloroform, the wound, the shock, etc.

DR. CHURCH of Chicago was of the opinion that there is a certain relation between migraine and epilepsy.

DR. HUGHES of St. Louis did not believe that migraine and epilepsy are at all associated diseases.

DR. JOSEPH V. KOFRON of Cleveland, Ohio, related cases in which the migraine had been cured in children by relieving a diseased conditions of their tonsils.

DR. A. E. STERNE believed that in almost every case the cause could be discovered and removed, but even after its removal there is a secondary state following upon the chronic. If the difficulty is dilatation of the blood-vessels, the stretching may have gone to such an extent that the vital rubber has lost its contractility.

DR. F. SAVARY PEARCE of Philadelphia thought there is no doubt about the hereditary element, to which is superadded the exciting cause, whatever that may be.

DR. EVANS thought that the medical profession to

day is in a state of extreme uncertainty as to the causal factors in the production of migraine. In his opinion there is no relation between migraine and epilepsy. There being so many cases of each under observation, it is only to be expected that patients should occasionally be found who have suffered from both.

DR. HUGH T. PATRICK of Chicago agreed with Dr. Walker as to the likelihood of some relation between migraine and epilepsy. He pronounced a warning against accepting the statements made by Haig in his book, as thus far they are not borne out by facts.

The report of the Nominating Committee was unanimously adopted, and the following officers elected for the ensuing year: Chairman, Dr. Hugh T. Patrick of Chicago; secretary, Dr. F. Savary Pearce of Philadelphia.

A vote of thanks was extended to those members who came from other sections to participate in the symposium.

SECTION ON OPHTHALMOLOGY.

FIRST DAY—JUNE 6TH.

THE first day's session opened with probably the largest attendance in the history of the Section, all portions of the country being represented.

The address of the Chairman, DR. CASEY A. WOOD of Chicago, was concerned chiefly with the rapidly increasing number of papers which are yearly offered to the Section and he discussed the various ways of dealing with the problem.

Of the papers presented at this first meeting but two elicited much discussion. DR. H. MOULTON of Fort Smith, Ark., reported "A Case of Quinin Blindness in a Child Aged Three Years," and while there was nothing unique in the case save the age of the patient, which with one exception is the youngest on record, it excited an animated discussion in which part was taken by many until the chairman was obliged to postpone further comment until the morrow.

The paper by DR. C. H. WILLIAMS on "The Examination of the Vision and Color-sense of Railway Employees" also elicited an animated discussion, which was of greater interest than the paper itself.

Among the various opinions expressed was that of DR. GIFFORD of Omaha, who urged the use of the ophthalmoscope and an examination of the lids to detect possible exciting causes of corneal irritation. DR. REYNOLDS of Louisville regarded the color-test as outlined by the writer as insufficient and advised its being made in both a light and darkened room. DR. ALLPORT of Chicago believed that the examination of railway employees should be made by an oculist and not by a lay servant of the company. DR. RANDALL of Philadelphia commended the system in vogue on the Pennsylvania Railroad, of submitting the result of the examination to a jury of fellow-workmen, and DR. JACKSON of Denver urged the necessity of such tests that would disclose the presence of scotomata.

After the appointment of a nominating committee the Section adjourned. The Section dinner was served at the Columbus Club and more than fifty sat down to the board.

REVIEWS.

GEBURTSHUELFLICHE TASCHEN-PHANTOME. (OBSTETRIC POCKET PHANTOMS.) By DR. K. SHIBATA. Fourth edition. Munich: J. F. Lehmann, 1898.

THE fourth edition of this little work is a good indication of its usefulness. For the student who has difficulty in learning the obstetric positions and the mechanism of labor in various presentations, the book has a distinct value. The miniature fetuses and pelvis enable him to study the mechanism correctly and as often as he choses.

PRACTICAL MATERIA MEDICA FOR NURSES. By EMILY A. M. STONEY, Late Superintendent of Training School for Nurses, Carney Hospital, South Boston, Mass. Philadelphia: W. B. Saunders, 1899.

WE have always believed that our trained nurses were compelled to learn too much that is theoretical to the enforced exclusion of much that is practical. It is sometimes a serious thing to be obliged to employ a nurse who knows all about gelsemium but who does not know how to lift a patient from the right to the left side of the bed. There is some justification for making nurses learn something of the armamentarium they daily use; but there is no sense in compelling them to become half-fledged medical students in the attempt. If all nurses were made to know thoroughly the contents of the book before us, they would be good students of materia medica, no doubt. As long as the present system of instruction prevails among training-schools, such books as Miss Stoney's will have a good reason for existence. It is thorough, complete, and concise, and contains much that will be of benefit to an intelligent nurse who is interested in her work.

THERAPEUTIC HINTS.

Care of a Young Child's Teeth.—Beginning at the age of two years, the teeth should be rubbed every morning with a cotton tampon wet with the following dentifrice:

℞	Thymol	ʒ iss
	Ac. benzoici	gr. lxxx
	Ol. menth. piper.	*m.* xl
	Ol. anisi	*m.* xxx
	Tinct. coccionellæ	ʒ iss
	Spiritus (80 per cent.)	ʒ viii.

M. Sig. Add enough to a glass of water to make the water cloudy.—*de la Carrière.*

Formula for Oil of Wintergreen When Given in Rheumatism.—

℞	Ol. gaultheriæ	ʒ iv
	Spiritus, Syr. simplicis aa	ʒ iv

M. Sig. One teaspoonful in vichy three times a day.

Suppositories for Infantile Dysentery.—

℞	Aluminii	ʒ v
	Plumbi acetatis	gr. lxxv
	Ol. theobrom.	ʒ v
	Melted wax	gtt. xx.

M. Ft. suppos. No. X. Sig. Insert one suppository every three or four hours.—*Guida.*

THE MEDICAL NEWS.

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ORIGINAL ARTICLES.

FEVER IN ASEPTIC SURGERY.[1]

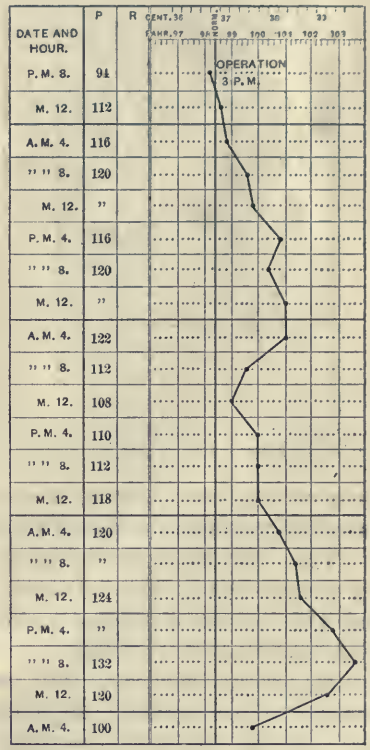
BY B. FARQUHAR CURTIS, M.D.,
OF NEW YORK;
PROFESSOR OF CLINICAL SURGERY AND ADJUNCT PROFESSOR OF THE PRINCIPLES OF SURGERY IN THE UNIVERSITY AND BELLEVUE MEDICAL COLLEGE.

IN the surgery of pre-antiseptic times when nearly all wounds healed with some inflammation, it was the rule to have a rise of temperature, at least in the early stages of healing. When antiseptic methods enabled the surgeon to obtain primary union, or healing by granulation, without local inflammation, it was natural to suppose that there would be no accompanying elevation of temperature, as the prevailing theories at that time ascribed the fever to the inflammation. It was soon discovered, however. that fever often accompanied healing by first intention, and Billroth ascribed it to the absorption of tissues in and near the wound which had broken down because of the impairment of their vitality by traumatism, and gave to it the name "traumatic fever." But the term "aseptic fever," introduced by Volkmann, has been more generally accepted.

In hospital services in which primary union of wounds is the rule it will be found that the majority of wounds heal without a rise of temperature to 101° F., and that in those cases in which this height is reached a certain proportion will still heal by primary union, while the rest will show some signs of infection, although it may amount to nothing more than a drop of pus around a single suture.

Recent investigations have demonstrated that the difficulty of sterilizing the skin of the patient and of the surgeon's hands, as well as the catgut, is so great that very rarely can absolute freedom from pyogenic bacteria be obtained. They have also shown, however, that even when considerable numbers of bacteria are present, primary union may occur, and Welch has proven that blood has sufficient bactericidal powers to destroy virulent pyogenic germs by injecting cultures of staphylococci into the blood-clot filling the cavities of wounds and observing that the wounds healed aseptically in spite of the infection. The effect of pyogenic infection upon the wound depends upon the number of germs present, the "dose" of poison, so to speak. A slight infection of operation-wounds is almost inevitable, and, if the line of safety in dose is not overstepped, primary union will take place without any reaction, or with some local hyperemia and edema and a rise of temperature. A certain proportion of cases of primary union, accompanied by fever, are really instances of slight infection, and as it is of bacterial origin the febrile movement cannot be called aseptic fever. Even absolute primary union is not a proof of complete freedom from bacterial infection.

FIG. 1.



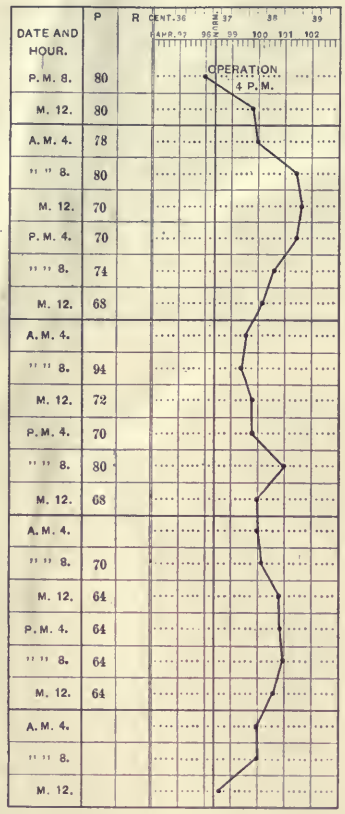
Temperature curve after ventral fixation.

In any large series of cases of wounds, therefore, we shall expect to find on the one hand a purely aseptic fever, on the other an inflammatory fever caused by undoubted infection, and between these typical cases, a series of cases of gradually increasing infection, in many of which it will be difficult or impossible to say whether the rise of temperature is aseptic or pyogenic. A further proof of this theory is the fact that there is a constant diminution of the number of cases of primary union accompanied by

[1] Read at the ninety-third annual meeting of the New York State Medical Society, held at Albany, January 31 and February 1 and 2, 1899.

fever, as the aseptic methods of the surgeon improve. We have been accustomed personally to look upon the occurrence of an increasing number of cases of apparent aseptic fever in our wards as a danger sig-

FIG. 2.



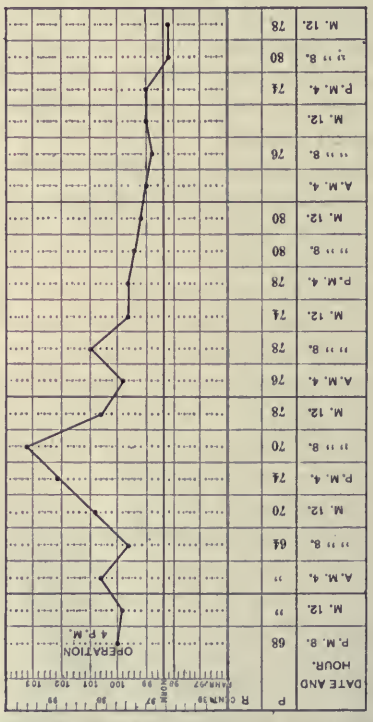
Temperature curve after abdominal hysterectomy.

nal of some error in our methods, and to make a thorough investigation and endeavor to improve our technic. This additional watchfulness has more than once reduced the number of cases of aseptic fever and also increased the proportion of cases healing by absolute primary union.

We cannot claim, however, that all cases of "traumatic fever" are caused by slight infection, for proof to the contrary has been too abundantly furnished from the time of the studies of Volkmann and Genzmer down to our own. Fever too often accompanies simple fractures and other subcutaneous injuries with extravasation of blood, in which infection is impossible unless it take place through the medium of bacteria circulating in the blood. According to the experiments of Köhler, Angerer, Edelberg, and others it seemed probable that the pyrexia was caused by fibrin-ferment set free in the extravasated blood and absorbed by the surrounding tissues. These results have been questioned recently by Schnitzler and Ewald, who drew blood from animals and human beings with well-marked aseptic fever accompanying subcutaneous injuries and found no free fibrin-ferment in the specimens. Hammerschlag also examined the blood of nineteen patients with fever due to other causes than traumatism and found free fibrin-ferment in it, and finally others have claimed that free fibrin-ferment could be found in some individuals without fever. It is, therefore, considered probable by these observers that another substance, found in blood-clot and dying, breaking-down tissues, known as nuclein is the cause of aseptic fever. The absorption of nuclein causes an increase of a peculiar nitrogenous body in the urine, and also produces leucocytosis. Schnitzler and Ewald found the increase of this nitrogenous constituent of the urine in three out of four cases of osteoclasis. In six similar cases they also found a marked leucocytosis, the increase of white cells being fifty per cent. of the number observed before the operation. The leucocytosis took place immediately and sometimes reached its maximum within four hours and passed away generally in two or three days. In some cases the number of leucocytes reached 37,000.

Whether aseptic fever is caused by fibrin-ferment

FIG. 3.

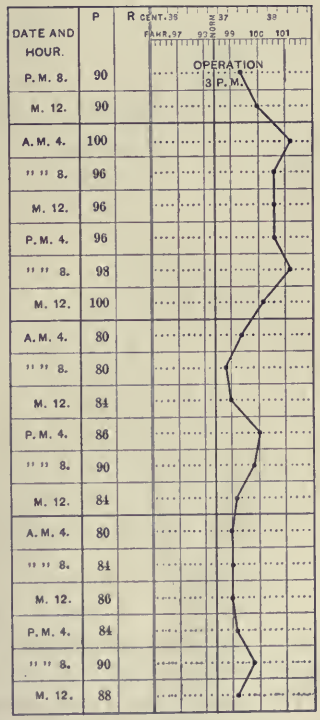


Temperature curve after amputation of the forearm.

or by nuclein may not be of much importance to the practising surgeon as both may be the result of blood-clot and breaking-down tissue in aseptic wounds, and the fact remains that the absorption of these sub-

stances is capable of causing a rise of temperature. But these studies may yet lead to important consequences if they will furnish us with a clinical test capable of informing us immediately after an operation whether the fever in a certain case is due to this absorption or to a beginning infection. The early dressing of serious wounds is a frequent cause of infection and we are, therefore, accustomed to postpone it for several days at least, and to rely upon the thermometer, together with certain symptoms to indicate the presence of infection and the necessity for an early dressing. It is of the greatest importance for us to be able to interpret correctly any rise of temperature which may occur and not to be compelled to expose a wound unnecessarily if the fever is due to some other cause than infection. This is especially true since surgeons have endeavored to abolish drainage of aseptic wounds as far as possible, for if there is an unusual amount of secretion or a slight infection the whole course of the wound may depend upon relieving the tension by opening the wound and establishing secondary drainage, and if we should accept the hypothesis of aseptic fever to account for a rise of temperature in such a case, and

FIG 4.

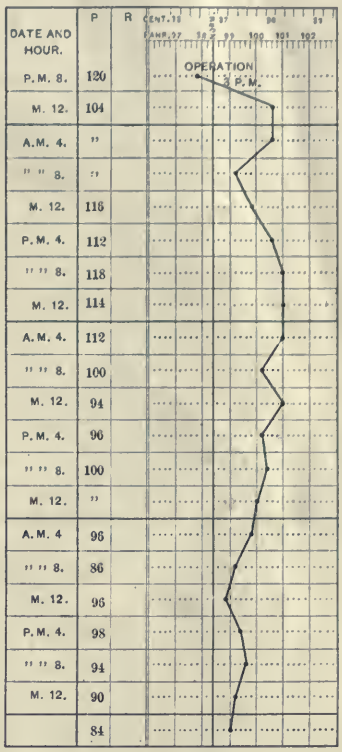


Temperature curve after nephrorrhaphy.

allow the wound to remain untouched, we would run far greater risk than that incurred by a premature dressing.

As practical surgeons the point which interests us is the recognition of infection and beginning inflammation of wounds at the earliest possible moment, and there can be no question of the value of the thermometer in indicating this condition. But to

FIG. 5.



Temperature curve after laparotomy for pyosalpinx.

properly estimate the presence of fever we must exclude all other causes for it, as well as the absorption of pyogenic substances from the wound. The ordinary disturbances and diseases which cause fever should first be excluded, and this is sometimes a task of the greatest difficulty. We have seen malarial fever, gastro-intestinal disturbances with absorption of ptomains, constipation, bronchitis (often from the ether), rheumatism, typhoid fever, and in children the various infective fevers, cause the greatest number of errors in this regard. We cannot dwell here upon their distinguishing points, but wish to emphasize the importance of careful examination of the blood in all cases, for valuable information may be gained by finding the malarial parasite, the typhoid-fever reaction, or the presence of leucocytosis. Some good authorities lay great weight upon leucocytosis as a sign of pyogenic infection, but there are so many other conditions in which it occurs that the greatest precaution should be taken before an increase in the white cells is accepted as evidence of wound infection. We have just mentioned the fact that it occurs immediately

after such operations as osteoclasis, where infection by pyogenic germs is out of the question. Further study of this subject, with a large series of cases, is very desirable.

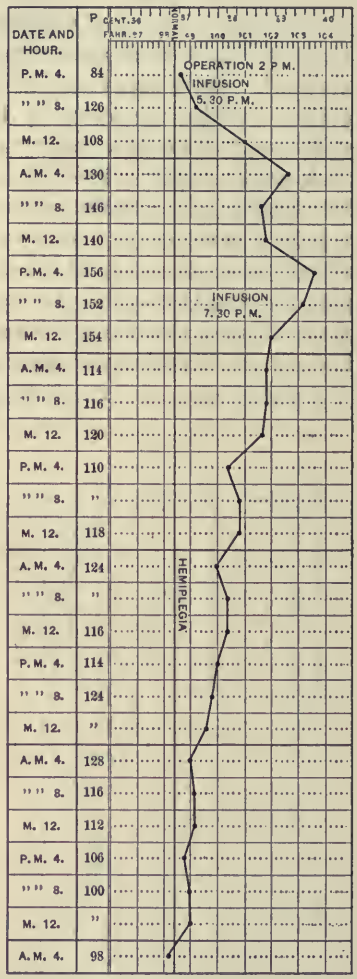
As an illustration of a pyogenic temperature take Fig. 1, a case of ventral fixation for complete prolapse of the uterus in a very fleshy woman, forty-seven years of age, operated upon at St. Luke's Hospital last December, in which the abdominal wound became accidentally infected. The rise of temperature began about twenty hours after the operation and progressed to 103° F. on the third day, being temporarily held in check by catharsis on the second day. The pulse kept pace with the temperature, running up to 120 and 130 beats to the minute. The symptoms gradually subsided after the wound had been freely opened. On the fifth day there was a leucocytosis of 21,800.

Figs. 2, 3, and 4 are illustrations of aseptic fever, of which I could show many more. Fig. 2 is from an abdominal hysterectomy for supposed malignant degeneration of the placenta, with a dead, poorly developed, three-months' fetus. The abdominal wound healed absolutely by primary union without a sign of peritonitis. The patient had had a temperature of 99° to 99.4° F. before operation. Sixteen hours after operation it had risen to 101⅘° F., then gradually fell, but did not fully reach normal for eighteen days. The pulse at no time rose above 80 and was only 70 when the temperature was at its highest, 101.6° F.

Case III. was an amputation of the forearm for recurrent epithelioma of the hand in a farmer, eighty-one years of age, but in vigorous condition. The wound, with very thin flaps, compressed firmly by the dressing, healed by first intention absolutely, and it would seem as if there could not have been a cavity large enough to cause any absorption. The operation produced no shock whatever. But the temperature rose at once and in twenty-four hours reached 103° F., the pulse then marking 70 beats to the minute, but subsequently reaching 78. A careful examination of the chest on the second day revealed some scattered subcrepitant râles, but there was no cough, and not change enough to explain the temperature (Fig. 3).

Case IV. was a rather poorly nourished but apparently healthy youth of nineteen, with bilateral floating kidney which occasioned him annoyance and positive pain. November, 1898, nephrorrhaphy was performed on the right side by the split-muscle incision of Abbe, similar to McBurney's incision for removal of the vermiform appendix. Chromicized catgut sutures were passed directly through the kidney substance. Within twelve hours the temperature rose to 101.2° F., with a pulse of 100. The lad has a naturally high pulse of 80 or more. The temperature fell very gradually (Fig. 4). This month (January, 1899) I operated by a similar method upon the other kidney, and the patient presented a temperature curve almost exactly identical with the one shown. It might be argued that the wound of the kidney by the needle might explain his temperature, but we have a chart almost exactly the same

FIG. 6.



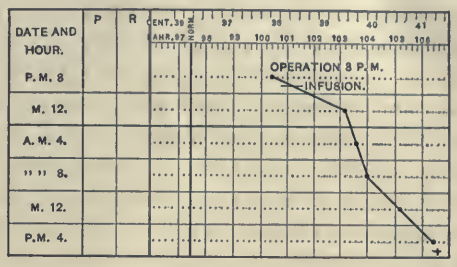
Temperature curve after amputation of the upper extremity.

as his, from a woman thirty-nine years of age, from whom we removed a small pedunculated myoma from the fundus uteri by a laparotomy, and then secured the uterus to the abdominal wound (ventral fixation). This patient had a temperature of 101° F. in eight hours, gradually subsiding, with a pulse of only 96, no sign of peritonitis, and primary union of the wound.

Fig. 5 shows another sort of absorption fever, a very common type. The patient was a colored woman, twenty-eight years old, with large and very

adherent double pyosalpinx, and a tubo-ovarian abscess on one side, which were removed, together with the uterus above the cervix, by a median laparotomy. The tubes burst and the pus freely escaped into the pelvis, but the rest of the abdomen was well protected by pads, and we ventured to close the wound without drainage after thoroughly

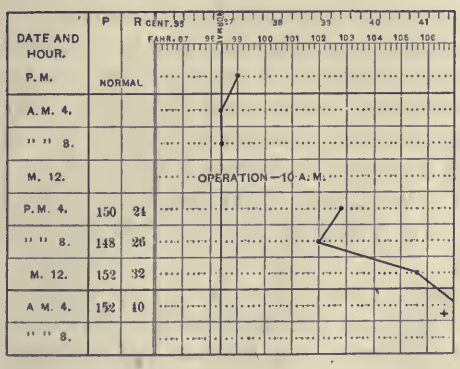
FIG. 7.



Temperature curve after abdominal hysterectomy.

wiping and washing out the pus. The stump of the cervix had been previously covered with peritoneum. The operation was difficult and tedious, and was followed by severe shock, but there was no sign of peritonitis, and the patient made a good recovery with absolute primary union of the abdominal wound. The temperature rose to 100.6° F. within six hours, but meanwhile the pulse had been reduced from 120 to 104 by an intravenous saline infusion and stimulants of various kinds; 101° F. was recorded about twenty-four hours after the operation with a pulse of 118. The fall of tempera-

FIG. 8.



Temperature curve after laminectomy.

ture and pulse was slow, lasting four or five days, but no bad symptoms were present.

Many other varieties of absorption fever could be quoted. In Case V. the temperature was probably due to the toxins of the pus in the tubes, absorbed by the peritoneum. Absorption of urine when a distended kidney bursts during nephrectomy, absorption of the bile after operations on the biliary passages when the wound is left open and packed, absorption of thyroid juice after thyroidectomy, all cause a rise of temperature. We have seen two cases of a fatal result after partial thyroidectomy for exophthalmic goiter, caused by acute thyroid poisoning from absorption of the juice of the gland, accompanied by very high temperature, in one case reaching 109° F. before death, with absolute asepsis of the wounds. Fever is often seen after operations for tubercular peritonitis and arthritis, caused by the absorption of the tuberculin toxin.

The peculiarity of all these absorption fevers, including aseptic fever with them, is their prompt beginning immediately after operation, whereas inflammatory fever requires twenty-four hours or more before it begins, as shown in Case I. A virulent infection, such as occurs in a poisoned wound (such as a surgeon might obtain in operating upon a septic subject) might cause an almost immediate rise of temperature, but we are discussing operation wounds in which great pains are taken to avoid infection, and in them the infection will be slight and slow in development. But it is not altogether safe to assume that the slight infection seen in operating wounds may not cause some of the pyrexia generally known as aseptic fever merely because the latter begins so promptly. The chill and sharp rise of temperature seen after urethral instrumentation is so sudden that it seems impossible to explain how it can be caused by infection, and yet it can be almost entirely prevented by proper cleansing of the urethra and sterilization of the instruments and surgeon's hands. There may be a nervous element in it, but the main cause must be infection, otherwise aseptic precautions would not so greatly influence its occurrence.

All the cases in which a sudden rise of temperature follows operation, however, cannot be charged to absorption, and a certain proportion of them seem to us to be caused by shock. The classical picture of shock with a subnormal temperature followed by a reactionary stage with a febrile movement after some hours, may be correct for accidental injuries, but it does not portray the symptoms observed in shock after modern surgical operations. This may be due to the great difference in the conditions of ancient and modern surgery. In old days an operation resembled an accidental injury in many points—the patient was conscious and endured great pain. In the case of accidents, the patient often receives a severe mechanical shaking and concussion, and generally lies somewhat exposed or has to be transported after the accident. These conditions

would tend to lower temperature. In the modern operating-room the patient is anesthetized after preliminary starvation and evacuation of the bowels and bladder, he is generally kept warm, and stimulation by strychnin, alcohol, and other means is supplied at once if the pulse weakens. There is little to cause a subnormal temperature (except prolonged etherization), and it is rather the exception to have it go below 98°. On the other hand, the anesthetic acts in a complicated manner on the bronchi, heart, kidneys, and stomach, and may easily produce effects which result in a febrile movement. The older surgeons warned against the danger of too free stimulation in shock for fear of a dangerous reaction, but although the heart may be exhausted by over-stimulation, we know that excessive dosage of alcohol, strychnin, and digitalis cannot elevate the temperature, and that the fever which they called reactionary fever is to be considered one of the nervous phenomena of shock. It is to be associated with the great ante mortem rise of temperature seen in many diseases, for instance in tetanus, and is a sign of nervous exhaustion.

Fig. 6 is an example of a high temperature apparently purely the result of shock. The right upper extremity was entirely removed (except the sternal half of the clavicle) in a married woman twenty-two years of age for sarcoma of the scapula. The patient was in profound mental depression from anticipating the loss of her arm and had a rather sluggish circulation. She lost only eight or ten ounces of blood during the operation, and the pulse remained slow, but became very compressible and feeble. A venous salt infusion was given about two hours after the operation. When she left the operating-room her temperature was 98.6° F., in four hours it was 99.2°, in eight hours 101°, and in twelve hours 102.6° F. The pulse-rate had risen continually from 90, 120 to 130. The temperature fell a little, but the pulse-rate rose to 140. In twenty-four hours the temperature was 103.6° F., and the pulse over 150. Another intravenous infusion was given, and both temperature and pulse-rate then slowly fell. On the third day the picture was complicated by complete hemiplegia of the left side, without change in pulse or temperature, probably caused by thrombosis slowly developing in the cerebral arteries, or possibly an embolism from a clot extending back into the carotid from the point of ligation of the third part of the subclavian. The wound was healing by first intention, but on the tenth day some infection was observed at the upper angle, probably a late infection, for the wound had been somewhat exposed at that point by slipping of the dressing, and the temperature had meanwhile become quite normal. It is seldom that one sees a patient with such a severe case of shock recover, and the house-surgeon of St. Luke's Hospital, Dr. Wadsworth, deserves great credit for the result. The usual picture of severe shock with high temperature after operation is that shown in Figs. 7 and 8, ending fatally.

Fig. 7 is the chart of an abdominal hysterectomy patient, a very tedious and severe operation with great shock, terminating fatally with a rapid rise of temperature to 106.4° F. Fig. 8 is the chart of a man thirty-one years of age who fell forty feet and sustained a fracture of the upper dorsal vertebræ. One week after the accident a laminectomy was done, removing the broken spines and arches of the fourth and fifth dorsal vertebræ, and the broken spines of the three bones above. There was an extradural clot which was removed, but the membranes were not opened. The autopsy showed that the cord was crushed at this level. Severe shock developed during the operation. Previously the temperature had been normal, but four hours afterward the temperature was 102.8° F., with a pulse of 150, and respirations of 24 per minute. In twelve hours the temperature reached 105.6° F., the respiration 32, and the pulse the same. Just before death the thermometer marked 107.4° F.

In Case VIII. the high seat of the injury renders it possible to imagine an irritation of some spinal or medullary heat center, but the fact that the dura was not opened and the only change made in the conditions produced by the accident itself was the removal of some depressed bone and blood-clot, made this highly improbable, especially as the man's temperature before operation had been normal. It is more reasonable to ascribe it to the shock, which was increased by the patient lying on his face during the operation. We have come to look upon a sudden and great rise of temperature as a frequent and very dangerous sign of severe shock after operation, for it is seldom that such patients can be revived.

In making the diagnosis of aseptic fever, then, we can distinguish it from shock by the good quality of the pulse, and we can readily exclude the other varieties of absorption fever (toxins, bile, thyroid juice), by the history of the case. We can distinguish it from inflammatory fever by its very early appearance, by the fact that the pulse remains relatively low, and the patient has few subjective sensations. He may be a little flushed and thirsty, but does not show so much depression or nervous excitement as is seen in inflammation. The character of the pulse is important as well as its rate, for in

aseptic cases it remains quite soft, and has not the quick beat and wiry tension so common in inflammation. The pulse will probably be the best guide in doubtful cases. The fall of aseptic fever is not so characteristic as its rise, for it may come down in two or three days, or it may continue for as many weeks a little above normal.

We must bear in mind, however, that there are many mixed cases. In a case of laparotomy for pyosalpinx, for instance, there may be severe shock, absorption of toxins from the sterile pus in the tubes, absorption of non-infected blood-clot in the abdomen, and finally accidental infection of the abdominal wound by a suture—the result being an immediate abrupt rise of temperature from shock, continued by the toxins, and maintained afterward by the inflammation of the external wound.

CLINICAL MEMORANDUM.

THE USE OF THYROID EXTRACT IN FIBROMATA—CLINICAL NOTE.[1]

BY MALCOM McLEAN, M.D.,
OF NEW YORK.

AS a member of the committee appointed to report on the use of fibroid extracts in fibromata uteri I can only give a brief note of my observations in the use of this remedy in eight cases.

Cases of myoma or fibromyoma were generally selected, which gave emphatic symptoms, such as pain, hemorrhage, or general nervous disturbance, all of these symptoms being present in greater or less degree. In two cases there was some pain but little hemorrhage and an unusual amount of mental irritation. In three cases pressure symptoms and other manifestations of pain were conspicuous. In four cases hemorrhage was present to a severe degree, and in five of the cases menorrhagia was very marked. Five of the women were married, of whom two had borne children. Three were unmarried and between the ages of twenty-five and forty. In those cases in which pain and pressure symptoms were prominent the tumors, with one exception, were from the size of a fetal head to a diameter of eight inches; and in the cases accompanied by excessive hemorrhages the size was rather less.

In the two cases where marked nervous disturbances were conspicuous the growths were small and the ovaries evidently implicated in the diseased conditions about the uterus.

Thyroid extract was administered in one case only three times a day, in amounts of 2½ grains. But in this case it was found that the cardiac disturbance was such as to demand a suspension of the remedy for a while. In all of the other cases one morning dose was administered of 2½ grains and continued regularly during a period covering from six weeks to five months. In two cases diminution in the size of the tumors was demonstrable and the symptoms of hemorrhage became so much ameliorated as to be quite remarkable.

Pain was diminished in two cases and the intervals of respite from pain in another were quite extended.

In the "nervous" cases the effect seemed to be decidedly beneficial, the patients becoming more calm and rational, hysterical symptoms abating markedly.

In several instances the tumor continued to grow and called for surgical intervention to give necessary relief.

Incidentally it was observed that the remedy had a salutary effect upon cases of post-operative nervous disturbance such as is found so uncomfortable after ablation of the uterine adnexa. In one case involving distinct melancholia, following removal of the appendages in an operation for dermoid cyst, the continual use of the remedy in the dose above mentioned for two months accomplished a complete cure or, at least, the patient became perfectly normal under most unpromising circumstances.

It is my opinion that much more extended observation, covering a large number of cases during a period of at least two years, is necessary to give a fair estimate of the real value of thyroid extracts in these diseases. The physical and pathological conditions of these fibromata vary so much, their history and progress, without any treatment whatever, differ so markedly that we should be careful not to jump too quickly at conclusions as to cause and effect. We all know how disappointing has proved the operation of oophorectomy for the arrest of fibroids, and yet, a few years ago it was advanced as a most valuable conservative measure.

To-day the administration of thyroid extract *seems* to be followed by distinctly beneficent changes in a sufficient number of cases to make it advisable, if not obligatory, for us to give our patients the benefit of its fair trial. But we must not make the mistake of erecting a hypothesis and then strive to force our observations to coincide thereto.

Certain it is that in the majority of cases requiring interference (and there are some which may be practically ignored) we should hold ourselves ready to give that positive relief which can only come from a well-directed, well-executed modern operation.

[1] Read at the twenty-fourth annual meeting of the American Gynecological Society, held at Philadelphia, May 23, 24, and 25, 1899.

MEDICAL PROGRESS.

Three Cases of Aortic Tubercle.—BLUMER (*Albany Med. Ann.*, May, 1899) reports a third case of tubercle on the intima of the aorta, two similar cases having been previously reported by him in the *American Journal of the Medical Sciences* for January, 1899. In all three cases the source of the tubercle was evidently in the blood, as there was no direct extension of the process from an adjacent focus. In the third case in particular, the tubercle was still a small one, and nearly its whole center was composed of fibrin, so that the microscopical appearances seemed to support the theory that such a tubercle is thrombotic in origin.

A Practical Point in Intestinal Suture.—FRAZER (*Lancet*, May 13, 1899) suggests a simple method to insure accurate union along the mesenteric line, in suture of the small intestine. His plan is to rotate the two ends of bowel for a slight distance in opposite directions, so that there may be room for two or three stitches between the cut ends of the mesentery. This insures that there shall be no place in the suture line where there shall not be at least one serous surface involved in the suture. The procedure can be carried out with any end-to-end anastomosis.

THERAPEUTIC NOTES.

The Treatment of Carbuncles.—CREEL (*Cincinnati Lancet-Clinic*, April 29, 1899) strongly recommends the use of ecthol, both for internal medication, and as an external application. He employs the drug internally in doses of a teaspoonful every two hours, continuing the remedy until the healing has been completed, gradually prolonging the interval between the doses. He claims that ecthol is a corrector of blood dyscrasia, and in the best sense an antipurulent. The local treatment consists in free incision and thorough evacuation of the pus-cavity by scraping, thus removing all the dead and inflamed tissue. The wound is then carefully cleaned with peroxid of hydrogen and dressed with absorbent cotton saturated with ecthol. This dressing should be changed every four to eight hours. Creel has treated fifteen cases of carbuncle in the manner here outlined, and claims that the duration in each case has been gratefully shortened and the convalescence of the patient improved.

Cure of a Bad Paraphimosis by a Simple Method.—LEWIS (*North American Med. Rev.*, April, 1899) was called upon to relieve a patient with a bad paraphimosis of many hours' duration. A bandage was wound as tightly around the penis as the feelings of the patient would permit. This was saturated with lead and opium solution, and a rubber bandage applied outside of it. The following day the swelling had diminished somewhat, but reduction of the prepuce was still impossible, and the treatment was continued for another day. By that time the edema was so far pressed out that reduction in the usual manner was easily accomplished.

Treatment of Certain Summer Diarrheas of Infancy.—STENGEL (*North Car. Med. Jour.*, April 20, 1899) says that a certain class of summer diarrheas of infants are amenable to prompt and vigorous treatment. The cases are usually sudden in onset, and marked by some regurgitation of food, high temperature, copious brownish, then greenish and finally often watery stools and rapidly developing signs of collapse. The external temperature is low, while that in the rectum is high. The child moans, lies with upturned eyes, and occasionally gives a sharp cry like that heard in meningitis. Such cases are classified by him as entero-colitis. The gravity depends not on the extent of the intestinal lesion, but on the amount of the intoxication. The most important part of treatment is the flushing of the colon, and the use of tepid baths. These measures will cause the temperature to fall, and the symptoms to abate. A long catheter is passed into the bowel, and one or two quarts of water at a temperature of 85 or 90 degrees allowed to flow into the bowel. Two or three douches may be required daily, though in other cases one may suffice. Small doses of opium, not to check the diarrhea, but to allay nevous symptoms, are serviceable in the early stages of the disease. Following are two useful prescriptions:

℞	Bismuth subgallat. . .	gr. xxix-xxxvi
	Pulv. opii	gr. ss
	Pepsini	gr. vi-xii.

M. Div. in pulv. No. XII. Sig. One every four hours alternating with the following:

℞	Hydrag. chloridi mitis . .	gr. ss
	Cerii oxalat.	gr. ii
	Sacch. alb.	q.s.

M. Div. in pulv. No. XII. Sig. One every four hours.

Treatment of Diarrheal Diseases in Children.—UPSHER ("Keating's Cyclopedia," Vol. V.) advises in acute milk infection, the entire withdrawal of milk from the diet and thorough lavage of the bowel with warm water, to which borax is added if there is much mucus present. When the patient is in a state of toxemia, large quantities of a saturated solution of boric acid are to be used once or twice a day for washing out the bowel. When an astringent is indicated, the best agent to employ is a one or two-per-cent. solution of tannic acid, and from ¼ to ½ a grain of calomel may be given every two hours for three or four doses. When stimulants are required, either brandy or whisky may be given according to the indications. Nervous symptoms are to be met by morphin hypodermatically in doses of $\frac{1}{100}$ of a grain for a child of one year, to be repeated cautiously if necessary, and an ice-cap applied to the head. No food is to be allowed other than small quantities of Valentine's beef-juice in ice-water. In some cases, if food be entirely withdrawn for some hours, and small, frequently administered quantities of some feebly alkaline, sparkling water be given, the results are excellent. The return to a milk diet must be slow and cautious. In subacute milk infection, the child should have cracked ice to relieve its thirst and be given plenty of fresh air. Castor oil is to be given if there is evidence of intestinal irritation. Broths or albumin water may be substituted for milk, or all food be withdrawn. Calomel in doses of ¼ to ½ a grain, combined with precipitated chalk should be administered when the stools are sour, and continued until the consistence of the stools is better. Then astringents—kino, catechu, or logwood—are to be given in combination with chalk-mixture. Free lavage of the bowel with a weak salt solution should be employed every day. If much soreness or tenderness of the abdomen is present, hot spice fomentations are to be applied, or enemata of thin starch water and laudanum are to be administered. If stimulants become necessary, iced mint julep is the best form for use. If the disease remains obstinate, the child should be removed to the air of the mountains, if possible.

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SATURDAY, JUNE 24, 1899.

MUSIC AND NEUROTIC CONDITIONS IN YOUNG GIRLS.

IN the first instalment of her reminiscences, at present appearing in the *Atlantic Monthly*, Mrs. Julia Ward Howe expresses herself very clearly concerning the possible bad effects of music upon the sensitive dispositions of delicate girls during the developmental period. Although an ardent lover of music herself she recalls vividly the reaction she experienced after devoting herself to concert music. This reaction, to use her own expression, "was often very painful and induced, at times, a visitation of morbid melancholy, which threatened to affect my health." She is very outspoken in her warning regarding the danger there is in music for those who are deeply affected by it and considers that "regard should be had to the sensitiveness of youthful nerves and the overpowering response they often make to the appeals of music."

In a recent number of the *British Medical Journal* attention is called editorially to some lately published observations of Dr. Waetzhold as to the effect the devotion of considerable time to the piano has upon young girls. Of 1000 girls who devoted themselves to piano instruction 600 presented more or less grave signs of chlorosis, while many of them had all the pronounced symptoms of that affection. Of 1000 girls on the other hand who, living amid similar environment, had not been taught music, only 200 developed any chlorotic symptoms. Of course the exactions of a musical education are not the only factors that enter into the etiology of the chlorosis in the large number of cases of the first group. It is clear, for instance, that the girls who have the time and inclination to devote themselves to music are apt to be the more delicate and sensitive. Even taking this into account, however, Dr. Waetzhold's observations and conclusions are very striking and furnish a certain groundwork of actual experience for the feeling of opposition to too early musical training, which has been growing in the medical profession for some time.

The impression that devotion to music on the part of young girls is often harmful by no means finds its first expression in these communications. Especially have English medical men insisted on its evil results. There is undoubtedly too much stress laid upon musical training in the education of young girls. Though in after life most of them faithfully give up any serious attention to it, practically all of them must have the training. For the healthier girls this constitutes no source of danger. For the more delicate ones it often means a series of poignant appeals to their already superexcited and irritable nervous temperaments. For them the reaction from the exaltation of musical enjoyment or execution is especially harmful and it comes at a time when serious developmental calls upon the organism have put the nervous system in a state of unstable equilibrium, in which it reacts exaggeratedly to all external stimuli. There is no doubt that the foundation of many a persistent neurasthenia in after life can be traced to the nerve storms incident to musical training at a time when Nature demanded rest, not excitement.

There is no special reason why the burden of musical training should be foisted on every young girl at this period. And for those that have real musical talent delay will serve the very useful purpose of enabling the individual to take up the subject more seriously when greater maturity and, hap-

pily, established health have given the requisite endurance. Fortunately for womankind some of the greatest teachers of vocal culture are discovering and proclaiming that the best results are secured by delaying the training of the female voice till the functions of womanhood have been fully established.

ECHOES AND NEWS

Dr. Wiener Appointed.—Dr. Joseph Wiener, Jr., has been appointed adjunct-attending physician to Mt. Sinai Hospital.

Appointments at Bellevue Hospital.—Dr. George Roe Lockwood has been appointed visiting physician, vice Jacobi resigned. Dr. Henry A. Griffin has been appointed assistant visiting physician in the Fourth Division.

Koplik's Spots.—Dr. G. Lovell Gulland in the review of current literature on the infectious fevers for the June number of the London *Practitioner*, says: "In the early diagnosis of measles the presence or absence of Koplik's sign which I described in last year's review will be found very valuable as I have had ample opportunity of ascertaining during a recent epidemic in Edinburgh."

Bubonic Plague in the East.—Seven cases of bubonic plague have been observed in the Greek Hospital at Alexandria, Egypt. All of the patients are progressing favorably. The peculiar circumstance is that all of the patients were inhabitants of Alexandria, had not been absent from the town, nor had they had any relations with travelers coming from places where the plague existed. It is therefore inferred that there may be other cases in the town. What is known as "sanitary smuggling" goes on regularly along the shores of the Red Sea and Mediterranean. Quarantine against Alexandria has been established at most Mediterranean ports.

A New Bacteriologic Laboratory for Delaware.—The State Board of Health of Delaware has established a laboratory in Newark, Delaware, at the State College, for the purpose of aiding the physicians of the State in the diagnosis of typhoid fever, diphtheria, tuberculosis, and hydrophobia, as well as other diseases which can be elucidated by examination of urine, blood, stomach contents, etc. The aim will also be to carry on original investigations with a view of furthering the progress of sanitary science in general, and bacteriology in particular. Professor Chester, the State Bacteriologist, has been appointed director, and Dr. A. Robin, bacteriologist and pathologist to this laboratory.

A Far-reaching Anatomical Dislocation.—During the course of the discussion at the recent meeting of the American Medical Association at Columbus, on the motion to have the report of the nominating committee hereafter kept absolutely secret until its announcement to the Association at the general session at which it is to be acted upon, one of the speakers who was insisting that such a motion was, for many reasons, inadvisable, said that "the Association might rest assured that the members of the Nominating Committee had backbone enough to keep their mouths shut without any bolstering or splinting resolutions," whereupon one of the oldest members of the Association, a matter-of-fact modern Syracusan, remarked *sotto voce* that this was the first he knew of any functional or anatomical connection between the vertebræ and the maxillæ.

Faith-Healer Convicted.—Mrs. Maria Müller, the so-called sympathetic healer, who treated twelve-year-old Dora Kranz for gangrene in the left foot, was tried on June 5th, before Judges Fitzgerald, Keady, and Fleming, in the Court of Special Sessions in Brooklyn, and was convicted on the technical charge of practising medicine without a license and sentenced to five-months' imprisonment. Mrs. Müller treated Dora Kranz by means of a "black salve," the application of which was accompanied by incantations. Finally, after much valuable time had been lost, the child was taken from her hands and removed to the Eastern District Hospital, where her limb was amputated above the knee-joint on May 6th. The child is now well. This Mrs. Müller has no associates, and she alone is responsible for the evil results of her work, but there are thousands upon thousands of "Christian Scientists," members of an organization thoroughly equipped for the performance of iniquitous practices, who are daily engaged in precisely the same unlawful business as this of which Mrs. Müller has been found guilty. Why are these people not convicted?

Obituary.—Mr. Robert Lawson Tait, F.R.C.S., who died suddenly on June 13th, as announced in our last issue, was born in Edinburgh May 1, 1845, studied at Edinburgh University, and was made a licentiate of the Royal College of Physicians and Surgeons of Edinburgh, in 1866. In the year 1871 he was appointed visiting surgeon to the Birmingham Hospital for Women, and it was during his term of service at this institution that he did the surgical work and gained the experience that made him one of the foremost gynecologists of the world. He was also professor of gynecology in and president of Mason College. Mr. Tait was a bold surgeon, and, profiting by the experience of his predecessors, Spencer Wells and Keith, extended largely the field of abdominal surgery. He was the first to recognize and bring prominently before the profession the disease of the Fallopian tubes which we know so commonly as salpingitis, and gave to the profession a rational and satisfactory key to the pathology of ectopic gestation. Upon these two important discoveries and his boldness in abdominal surgery must rest the permanency of his reputation. He was a man of strong personality, and a fighter in every nerve and fiber of his being. His misfortune was that he was quite as apt to be wrong as right on all questions of popular interest, and he antagonized the profession of Great Britain by his advocacy of the fallacies of the antivivisectionists. His unflagging opposition to Listerism was also a source of irritation to the medical

profession. It is difficult to account for the vagaries of a mind which thought so clearly upon strictly scientific subjects.

SOCIETY PROCEEDINGS.

AMERICAN MEDICAL ASSOCIATION.

Fiftieth Annual Meeting, Held at Columbus, Ohio, June 6-9, 1899.

(Continued from page 784.)

GENERAL SESSION.

FOURTH DAY—JUNE 9TH.

DR. I. N. LOVE of St. Louis moved that a part of Section 12 of the Report of the Executive Committee, read and adopted at a previous meeting, which provides for the printing of a list of the members of the Association in conjunction with the revised Constitution and By-Laws, be eliminated, saying that after thorough discussion of the question, the Board of Trustees had concluded that it would be detrimental to the interests of the Association to have such a list published in pamphlet form. The motion was seconded, after which a free discussion followed. The President stated that there was a standing resolution which provided for the publication of a list of the members triennially. The President put the motion of Dr. Love to eliminate a part of the section mentioned, and it was carried. Some doubt being expressed by one or two of the members as to whether this motion was really carried or not, another motion was made and carried to reconsider the vote taken on Dr. Love's motion, when Dr. Love moved that the whole question be laid upon the table. Carried. It is understood now that the list of members will be published triennially, as heretofore, in the *Journal*, but not in pamphlet form, as was recommended by the Executive Committee.

The Executive Committee in its report suggested to the Association the desirability of taking action to secure an appropriation from the United States government to meet the necessary expenses of its delegation to the Congress for the Prevention of Syphilis and the Venereal Diseases, to be held in Brussels, Belgium, in September next, and on motion, the suggestion of the Committee was concurred in.

The Executive Committee asked permission to appoint another member on the Committee on Gold Medal in the place of the member from San Francisco, whose term of office expires. On motion, this request was granted.

The Executive Committee offered the following resolution and recommended its adoption with reference to the work of the Sections: Resolved, That no paper shall be placed on record for the consideration of any Section unless an abstract or a precis of not less than fifty, or not more than 300 words accompanies the title, and is placed in the hands of the Chairman or Secretary of the Section at least thirty days before the time of meeting of the Section. On motion, the recommendation was concurred in.

Another resolution was passed to the effect that hereafter no name shall be printed on the program unless the title of the paper is announced. The Executive Committee found twenty or thirty names throughout the program without the titles of papers being announced.

The Committee on the Senn Medal reported through a member that it had not received any essay of sufficient merit during the year to award the medal.

DR. C. E. RUTH of Iowa moved that a vote of thanks be extended to Dr. Atkinson for his long, faithful, and efficient services, and that all uncomplimentary reflections cast upon him and his work be expunged from the records of the meeting. Carried.

DR. GEORGE M. GOULD of Philadelphia reported on behalf of the Committee on Prize Competition for Meritorious Scientific Work that it had received no essay for which it recommends the award of the prize. On motion, this report was received, the Committee continued, and instructed to make efforts to secure essays for another year.

The Secretary read a report from the Judicial Council in regard to the appeal of Dr. Charles G. Cannady of Roanoke, Virginia, against the decision of the Judicial Council of the State Medical Society of Virginia, that it had instructed their Secretary to notify all parties concerned to appear before the Judicial Council of the American Medical Association at its next meeting, when this matter would be adjudicated.

Relative to the matter of appeal of Dr. W. F. Barclay, the Judicial Council referred this matter back again to the Medical Society of the State of Pennsylvania for adjudication.

The Judicial Council also reported on the resolution which was adopted at the Denver meeting in 1898 and referred to it, stating that it was unconstitutional, inasmuch as it violated Article 2 of the Constitution relating to membership.

The Secretary announced the names of delegates to the British Medical Association, and also to the International Medical Congress.

The following amendment to the Code of Ethics, offered by DR. Q. C. SMITH of Austin, Texas, was read: To amend Paragraph 9, Article 4, of the Code of Ethics of the American Medical Association. Resolved, That attending physicians are entitled to charge a consultation fee for each consultation in addition to visit fee, equal in amount to that ordinarily charged in similar cases by consulting physicians residing in the same city, locality, or community where the service may be rendered. (To lie over one year.)

SECTION ON PRACTICE OF MEDICINE.

THIRD DAY—JUNE 8TH.

DR. GEORGE BOODY of Independence, Iowa, read a paper, entitled

NOTES ON TWO EPIDEMICS OF TYPHOID FEVER IN THE IOWA HOSPITAL FOR THE INSANE.

The conclusions drawn from this paper were as follows:

1. Cases of inverted typhoid fever are comparatively quite rare and the subject is deserving of thorough investigation as often and wherever an epidemic occurs, with

the object in view of determining the relative frequency of the disease; and in doing this all the methods for confirming the diagnosis should be rigidly applied in each suspected case. In the two epidemics reported it occurred but once in forty-three cases.

2. Of the patients who recovered 25 per cent. showed marked improvement in nutrition and muscular strength, while the remaining 75 per cent. only reached their former condition in these respects. Compared with previous observations it would seem that insane patients with typhoid fever do not show such a degree of improved nutrition after recovery as do those without the mental complications. The patients who improved mentally showed a corresponding favorable change in nutrition, and those whose mental status returned to normal made the most startling and striking changes in this direction. This may not be true except for those two epidemics, but in them is beautifully illustrated the profound influence that the mind exercises over the processes of nutrition and assimilation.

3. Of this number, 16⅔ per cent., all dementias, seemed brighter mentally but relapsed as soon as convalescence was completed, except one case, which continued on some little time longer; 2⅞ per cent., all melancholias, made partial recovery, and one is fairly able to resume the ordinary duties of life; 5⅝ per cent., one a case of katatonia and one of acute mania, regained their former mental status. The behavior of the cases of dementia would lead one to think the typhoid had some slight influence upon the mental condition, but it is of no value since the relapse occurred so soon. Such cases are always beyond the possibility of recovery. The prognosis in melancholia is favorable for some improvement and it is only fair in this one case to assume that the fever played no important rôle in the partial recovery since the change was no more than was predicted previous to the fever. The prognosis for recovery in acute mania is generally favorable; and in this case it was regarded as a specially hopeful case some time before the attack of typhoid. The recovery was rapid and complete and took place at about that period in the course of the mental disturbances at which a change might be expected had he not had the fever, hence one would not be justified in giving to the latter any prominence as a curative factor in connection with the insanity.

DR. J. L. TAYLOR of Wheelersburg, Ohio, read a paper, entitled

A QUARTER OF A CENTURY'S EXPERIENCE WITH TYPHOID FEVER, WITH SPECIAL REFERENCE TO SOME UNSOLVED PROBLEMS.

In the region of the Ohio Valley in which Dr. Taylor has practised for twenty-five years, typhoid fever has become recently endemic, instead of malaria, as formerly, thus raising the question whether the plasmodium has yielded to a bacillus of superior power. The typhoid came in the form of violent epidemics which gradually grew less malignant and have now assumed an endemic form, characterized each year by varying types. It rises independent of the water-supply and its course of development is opposite to that of surface drainage. No recognizable sources of infection can be traced.

DR. ALFRED C. HAVEN of Lake Forest, Ill., read a paper, entitled

A NEW BATH FACILITATING HYDROTHERAPY IN PRIVATE PRACTICE.

The bath he devised consisted of a canvas strap, encircling the headboard of the bed, the ends of the canvas belt fastened by a simple catch, so that the belt may be drawn taut. Another canvas belt of similar design for the footboard, two rings, twenty-six inches apart in each canvas strap, a rubber sheet hemmed at both sides, in which slip ropes, on the ends of which are four snaps. The patient is rolled on the sheet, the four snaps are caught in the four rings, and the tub is ready for the water. It is emptied by lowering one corner, and finishing with a small piece of rubber hose used as a siphon, When not in use it folds in a small cotton bag.

In his judgment there is no excuse for the busy practitioner neglecting a remedy that will do for his patient what no other agent will do. This common, everyday, despised, neglected, yet potent remedy, *water*, should be more often used, and can be used by every physician who has the good of his patient at heart.

DR. L. F. ROUSH of New Haven, W. Va., read a paper, entitled

THERAPEUTIC PRINCIPLES ESTABLISHED IN TYPHOID FEVER.

He took the ground that certain agents do have an influence, specific in nature, not only in mitigating the severity, but also in abridging the duration of the disease, with a consequent lessened mortality. The principle of action is to keep up a moderate free catharsis, especially with calomel; but other cathartics may be used which will change the action of the bowels which almost always takes place sooner or later in the disease in the way of a free diarrhea, to that action which is characteristic of the medicine given. By this method the toxin poisoning which always comes on is in a measure prevented, and as a consequence the symptoms are greatly mitigated. This treatment by catharsis he especially insisted on during the first six or eight days. During the further progress of the disease, if the characteristic diarrhea comes on again, the action of medicines is sought for. The salicylate of ammonium is given in solution in 5-grain doses every two hours day and night from the beginning to the end of the fever, *except* when the temperature falls below 102° F. in the evening, and then it is only given during the day. Sponging the patient with cold or warm water frequently he insisted upon; the temperature of the water should be determined by the patient's wishes. He favored the free administration of water, as well as giving tea or coffee should the patient desire it; he also favored the giving of fruit-juices from the beginning. Milk he preferred above all other foods if it agreed with the patient. He made a point against the use of the bed-pan, believing it is detrimental to the patient, and that if the patient is properly cared for and treated he will have plenty of strength to get up

without danger from intestinal perforation or from heart failure. He asserted that no patient with much tympanites is properly treated, and he considered this symptom as the one having the most evil omen of all others. It is the evidence of the continued multiplication of the typhoid bacillus and the poisoning which results; and every effort should be made by free catharsis and strychnin internally, and turpentine stupes externally to get rid of it. The author claimed that he can and does diminish all the symptoms, and greatly abridges the duration of the disease and points, as the result of his work in a series of 143 cases, to a mortality of 3½ per cent. He sees no use in decrying the medicinal treatment of this disease by any man, whether he stand high or low in the profession.

DR. E. C. BRUSH of Zanesville, Ohio, read a paper, entitled

THE USE OF ACETANILID IN TYPHOID FEVER, WITH A REPORT OF SIX CASES.

The cases reported were those of soldiers sent home, last August and September, from Camp George H. Thomas, Chickamauga, Ga. They were treated in the Zanesville Hospital. The only antipyretic used was acetanilid, which was efficient and effective. The directions given the nurses were to give 3 grains of acetanilid every three hours, whenever the temperature was over 101° F., until it fell to that point or lower. If, after giving a dose, the temperature showed a decided tendency not to fall a second dose was given in two hours. Nearly all the patients broke out into a good perspiration after the first dose. The shortest run of the fever was 24 days, the longest 35, an average of 30 days. All but one of the patients recovered; one died during the fourth week from hemorrhage from the bowels.

DR. GEORGE M. GOULD of Philadelphia read a paper, entitled

A FALLACY OF THE REST-CURE TREATMENT.

Thousands of patients are being systematically treated for functional diseases of the body that are due to diseases of the eyes, and thousands are being treated for organic diseases of the body which were originally caused by ocular diseases. In no class of cases is there such great reason to look after the eyes as in hysteria and neurasthenia, which, by a morbid philology, we allow to be called "nervous." Dr. Gould did not contend that in the majority of cases requiring the rest cure the origin or chief factor of the disease is eye-strain, or that the rest-cure is unnecessary even in cases of reflex ocular neuroses, but he emphasized these points: (1) It is positively criminal negligence to ignore eye-strain in any case requiring the rest-cure treatment. (2) It is not enough to know that one oculist has examined the eyes, especially if it has been done without a mydriatic. (3) To mydriaticize a pair of eyes for a month or two would often do more good, would certainly be more logical, would be an infinitely better means of differential diagnosis in obscure nerve trouble and functional nutritional diseases, than to put the patient's body to bed for the same time.

DR. G. BETTON MASSEY of Philadelphia read a paper on

THE CATAPHORIC TREATMENT IN CANCER; A FURTHER REPORT.

He gave a summary of cases. Since the paper previously read before the section twenty-six cases of carcinoma and sarcoma had been subjected to this method of treatment in some manner, many of them extremely bad cases—some forlorn hopes. Of these cases 10 were operable cases and these resulted as follows: Cured, 8; probably cured, 1; failed to cure, 1. Of the inoperable cases there were: Cured, 2; probably cured, 1; failed to cure, 13. He concluded as follows:

1. The massive diffusion of nascent mercuric salts, within a growth of the body, by an electric current, constitutes a novel therapeutic procedure of great value in the destruction of foci of malignant or non-malignant germ-growths when said growths are so situated as to permit of penetration and drainage.

2. This cataphoric destruction of the germs of a primary cancerous growth in situ, including outlying colonies and so-called roots of prolongation, permits the preservation of the unaffected portions of the organ in which it is situated and offers greater security against the recurrence of the growth than efforts to remove the living malignant organisms by cutting operations.

3. While the cataphoric method may be employed as a palliative in non-operable malignant growths and may at times cure them, its chief value is in the total destruction of the malignant germs in the early stages of primary growths and in the same stages of purely local recurrences.

DR. A. A. YOUNG of Newark, N. Y., read a paper on

RHEUMATISM; ITS ETIOLOGY, PATHOLOGY, AND TREATMENT.

He stated that the conclusion had nearly, if not quite, been reached that there is a rheumatoid bacillus. A clear conception of the etiology of rheumatism can only be reached from a correct knowledge of the biology of this specific bacillus. The disease is constitutional, not local. We are forced to the conclusion that rheumatism is an acute, febrile, specific affection induced by the presence and growth of the theoretical rheumatoid bacillus. This theory is strengthened by the many points in which it resembles other known infections. Heredity has also its bearing upon it.

The pathological changes which follow in the wake of developing rheumatoid bacilli are numerous, and confined primarily to the blood; secondarily, to the joints, tendons, and tendinous sheaths. The blood is the medium which carries this morbific agent, a micro-organism, which has its development in some constituent of the blood, to various parts of the body. At its earliest manifestation blood changes are found. There is an increase of the fibrin-producing agent and a loss of alkalinity, shown by the increased tendency of the blood to coagulate. There is also a decrease in the number of red blood-corpuscles. Though the blood is alkaline there is a considerable increase in the amounts of urea and uric acid. The tend-

ency to the formation of fibrinous clots is the primary result of the uric-acid diathesis. The urine becomes highly colored, scanty, of high specific gravity, is markedly acid on cooling, and deposits the amorphous urates and uric acid, while there is little if any increase in the amount of the urea formed. This change is dependent upon the development of the rheumatoid bacillus. The joint involvement is likely to be produced from the primary blood infection. All the tissues surrounding the joint are attacked and the synovial fluid is poured forth very abundantly, and is acid, which indicates a blood-change. The membranes in and about the invaded joints assume greater vascularity and thickening. The articular surfaces become somewhat roughened from the increase of cartilaginous cells. Inflammation is Nature's way of eliminating foreign material. When this is impossible she covers up and imprisons in its nidus the fully developed rheumatoid bacillus, which, if not destroyed, is prevented from further reproductive process.

Three elements must be recognized in the treatment of rheumatism. The first is the deposition of the rheumatoid bacillus into some suitable culture medium within the body, presumably the blood; second, the bacillus must assume an active stage of development, must pass through its biological changes from the germinal vesicle to the perfect bacillus; third, the conditions or so-called sequelæ existing after the active inflammation has subsided. The first condition can only be met by prophylaxis; better hygienic, sanitary, and dietetic conditions. The second condition requires more careful attention. There is a relation existing between the biology of the bacillus and uric-acid formation. It remains to be demonstrated whether uric acid is the product of bacilli development or whether germ development depends upon the amount of uric acid present at the time of infection and subsequent to it. The writer inclines to the latter view and bases his treatment upon it. The salts of soda, especially the salicylates, change the form of the uric acid, which seems to effect an improvement in the rheumatic condition. While the irritation is lessened the uric acid is not eliminated and hence the liability to recurrence. Immunization may be the treatment of the future. Medicinal agents must come in direct contact with the germ and be its immediate destroyer, or they must eliminate from the system those elements upon which germ life and growth depend. A modification of the uric acid must modify the disease in like ratio. Pilocarpin, which produces perspiration, marked salivation, and increases all the excretory functions of the body, and after the use of which uric acid and urates may be found in the excreta, is a very effective remedy. The author positively denies that it has any injurious effect upon the heart. To promote uniformity and efficiency the hypodermic method is by far the best; the size and frequency of the dose must be left to the physician. In the treatment of those conditions known as sequelæ we must endeavor, as far as possible, to approach immunization, by eliminating uric acid, upon which germ life and growth depend.

DR. CHARLES G. STOCKTON of Buffalo read a paper on

ACCIDENTAL OR SPURIOUS ALBUMINURIA.

This term is employed to include those cases of albuminuria in which albumin finds its way into the urine from the pelvis of the kidneys, from the ureters, the bladder, and the genitalia. He stated that accidental albuminuria is not to be disregarded, and the source of the albumin should always be most carefully examined into. It should also be reiterated that when albumin is found originating in the bladder, the ureter, or the pelvis of the kidney, the urine should be frequently studied to make sure that infection is not invading the more important structures of the kidney.

DR. W. C. PURDEY'S paper on

THE QUANTITATIVE ESTIMATION OF ALBUMIN IN THE URINE

was read by DR. ARTHUR H. ELLIOTT. He considered the gravimetric method, Tanret's titration method, with the double salt of iodid of mercury and potassium, with mercuric chlorid as the indicator, the time reaction of Brandberg, the differential density method of Lang, Hoebler, and Bernhardt, Esbach's volumetric method, and his own centrifugal method, giving both volumetric and gravimetric percentages, with error not exceeding 0.02 of 1 per cent. The clinician demands something more available and accurate than those methods now used. The speaker's process consists of the following steps: Precipitation of the albumin in carefully graduated percentage tubes of 10 c.c. of the urine by means of 2 c.c. of 50-per-cent. acetic acid and 3 c.c. of 1 to 10 aqueous solution of potassium ferrocyanid; after mingling the urine and the reagents the tube should stand for 10 minutes to insure precipitation of the albumin. At the end of 10 minutes the percentage tubes are placed in a centrifugal machine, the radius of which, with tubes in position, must be exactly 6¾ inches. The tubes are revolved for exactly 3 minutes at a uniform speed of 1500 revolutions per minute. The tubes are next removed and the amount of albumin is read off in bulk percentage, which, by the aid of an accompanying chart, is converted into percentage by weight and grains per fluid ounce.

DR. CHARLES G. STOCKTON of Buffalo read an interesting paper on

CHOLECYSTITIS: ITS RELATIONS TO ANGIOCHOLITIS AND CHOLELITHIASIS.

There is a series of ascertained facts that is not to be disposed of by the simple statement that gall-stones are present and for some unknown reason migrate from the gall-bladder, and they are: (1) In a large number of post-mortems gall-stones are found present without the history of jaundice, hepatic colic, or other liver troubles. (2) In post-mortems of those dying from biliary obstruction there sometimes have been found no calculi in the biliary ducts, but one or two very large calculi in the gall-bladder, quite too large to engage in the cystic duct and, therefore, not directly guilty of the attack. (3) Obstruction of the biliary passages is not infrequently found to be complete when no gall-stone

is found present in any of the biliary passages. (4) A calculus is sometimes found in the common duct without jaundice, colic, or other symptoms of obstruction. (5) When gall-stones are found post-mortem, or in operations *in vivo*, and there have been recent symptoms of hepatic colic and jaundice, whenever these have been searched for, evidences have been found of cholecystitis or angiocholitis, or both. These observations seem to point to the fact that gall-stones may be innocent tenants of the gall-bladder; that attacks of colic may occur when the gall-stones are too large to engage, or when there are no gall-stones at all; that an inflammatory process of the biliary passages seems in some way related to the attacks of gall-stone colic. Operative procedure has for its object the cure of the cholecystitis. Undoubtedly, in a certain proportion of cases the inflammation includes the dangerous complications of chronic angiocholitis, hepatic abscess, and peritonitis, which, with the assistance of surgery, might have been prevented; but even in the cases in which operation is demanded a carefully considered plan of treatment should be applied, not only to assist in recovery, but to prevent recurrence.

FOURTH DAY—JUNE 9TH.

The proceedings were opened by the reading of a paper, entitled

A FURTHER REPORT ON THE USE OF ANTIPHTHISIC SERUM, T. R. (FISCH), IN TUBERCULOSIS,

by DR. A. MANSFIELD HOLMES of Denver, Colo.

In well-advanced cases the serum invariably causes an elevation of temperature, which occurs three to six hours after administration. There is also experienced from the prolonged use of the serum a more or less extensive infiltration of the areas used for injections; also, there is produced a depressing effect, which is relieved by a short period of rest. Sooner or later the lymphatic glands become tender and enlarged; it usually comes on within two or three days. He referred to the tuberculin test as a means of diagnosis. The advantages are twofold: (1) it serves as a reliable means of estimating the degree of convalescence, and (2) it serves as a safe and positive means of diagnosis when bacilli are not found in the sputum or excreta. He thought the study of the blood count is of greater importance as an aid in diagnosis than the study of the sputum. When the patients are experiencing the good effects of the serum there is invariably an increase in the percentage of young lymphocytes of the blood. On the other hand, in rapidly declining tuberculous cases there is a progressive decline in the percentage.

OUR TUBERCULOUS PATIENTS: WHOM TO SEND AND WHERE TO SEND THEM.

DR. J. FRANK MCCONNELL of Las Cruces, New Mexico, read a paper with this title.

In cases of fibrosis or fibroid phthisis he considered it a great error to send patients to high altitudes; they should be sent to moderate altitudes, or to the sea level. He especially called attention to Southern New Mexico, where there is an altitude of 3800 feet, a valley surrounded by mountains, and with little rain, averaging less than eight inches. It is a land of perpetual sunshine, 248 days in the year.

SEROTHERAPY, COMBINED WITH FAVORABLE CLIMATIC AND STRICT HYGIENIC SUPERVISION OF THE PATIENTS. REPORT OF 106 CASES SO TREATED DURING THE YEAR 1898,

was the title of a paper by DR. C. P. AMBLER of Asheville, N. C.

The use of antistreptococcic serum has proved of little benefit in his hands. The use of the antitubercle serum is indicated in incipient cases. It is contraindicated in cases of miliary tuberculosis, extensive softening, high pulse, marked emaciation, or in those in whom there is a decided hereditary history. The injections should not be used when the temperature reaches a higher point than 101° F. daily.

DR. EDWARD OTIS of Boston read a paper, entitled

THE VALUE OF THE TUBERCULIN TEST IN THE DIAGNOSIS OF TUBERCULOSIS.

His conclusions were as follows: (1) The tuberculin test indicates early tuberculosis by a general reaction before it can be detected by other methods, except the X-ray, in a large majority of cases, with a dose of from 5 to 10 milligrams of Koch's original tuberculin. (2) No injurious results occur from the use of tuberculin in these doses. (3) Proved tuberculosis in a more or less advanced stage may fail to give a general reaction from doses of from 10 to 12 milligrams. (4) Syphilis gives a reaction in an undetermined proportion of cases. (5) There is a dose, undetermined, at which a non-tuberculous person may react or simulate a reaction. (6) The reaction may be deferred from six to twenty-four hours.

The rules to be observed in making the test he formulated as follows: (1) Always use the same tuberculin and of a standard strength. (2) Use aseptic precautions in giving the injection. (3) Make the injections deep into the muscles of the back, arm, or leg. (4) Keep a two-, three-, or four-hourly chart of the temperature if possible, beginning twenty-four hours before the injection. (5) Allow several days to elapse before repeating the test. (6) In early cases depend upon the general reaction; in late cases if the general reaction fails, carefully look for the local.

DR. LOUIS FAUGERES BISHOP of New York then read a paper, entitled

DIAGNOSIS AND TREATMENT OF THORACIC EFFUSION.

The paper was a brief outline of an elaborate study of thoracic effusions, which was undertaken with a view to crystallize opinion on the importance of more careful search for fluid in pulmonary conditions and the necessity of early mechanical intervention. Serous effusions may be due to increase of exudation or a deficiency of drainage. The importance of the presence of fluid depends upon its amount, upon whether it is of mechanical importance, upon toleration by the patient, and upon its quality. Pus rarely may be spontaneously removed and should always be treated surgically. The diagnosis of fluid was considered at length and the importance of the exploratory puncture was particularly emphasized. The classical signs are not to be relied upon. The importance

of cultivating a knowledge of the natural relations so that fluid may always at least be suspected when present was emphasized. The technic of exploratory puncture was dwelt upon with special reference to antiseptic details. He recommended that physicians should carry a sterilized needle in a small bottle of absolute alcohol and reserve it for the particular use of exploratory puncture. The treatment by drugs was discussed and particular stress was laid upon the importance of free paracentesis. The Dieulafoy aspirator was recommended, particularly the old-fashioned, large, and powerful model which was devised at a time when aspiration of the chest excited more interest and attention than it now does, and he remarked that many inferior instruments are now thoughtlessly accepted by the profession. The danger of allowing even a small amount of fluid to remain in the chest was illustrated by the recital of several fatal cases. Sudden death from pleurisy with effusion was believed to result sometimes from a reflex nervous inhibition of the nervous mechanism of the heart analogous to the temporary hemiplegia that has sometimes occurred when the pleural cavity has been irrigated after empyema.

DR. A. T. CUZNER of Gilmore, Fla., read a paper on

THE GERM THEORY AND SERUM-THERAPY APPLIED TO THE PRACTICE OF MEDICINE,

considering briefly the physiology of the cerebrospinal and sympathetic systems, and emphasizing the great importance of the latter. He considered cellular pathology in detail, placing great importance on the following: (1) Each cell is a morphological unit having an individual life history, and is the result of the life of previous cells, and at their death they are resolved into effete matter very deleterious to living cells if retained in the tissues. (2) During their life they are favored or injured by their environments and circumstances over which they have but little control. (3) They are repellant to deleterious influences in proportion as their force or vitality is greater or less. (4) They have a very limited power of choice with respect to absorption or rejection of material brought to them by the circulation. In consequence, much good is effected by the presentation of certain drugs in certain morbid conditions of the tissues.

The functional activity of cells may thus be either increased or diminished as may be required. He showed that animal and vegetable organisms appropriate and prey upon each other's tissues under certain circumstances, and he illustrated this by giving a brief account of nut-galls, and then cited from Roswell Park's article on "Cancer." He next took up the different bacilli, microbes, etc., and he showed that they are ubiquitous; that they are to be found in enormous quantities in the air, in water, ice, and food; that they are, for the most part, dormant and innocuous, until aroused by favorable circumstances, when they become rampant; that the great majority of known germs are non-pathogenic and conserve the interest of mankind. The speaker then considered the germ theory of disease as held at the present day, and showed logically that if the present theory is correct, germicides will be the only medicine that will be needed in the future unless we can by some means render the body immune to the germs. The merits of serum pathology as understood and practised at the present time he treated as a fallacy, and to demonstrate this he quoted largely from Dr. Rupp's article.

DR. THOS. F. HARRINGTON of Lowell, Mass., then read a paper, entitled

PHILOSOPHY OF SICKNESS.

That medical science and art has made wonderful advances tending to the alleviation of human suffering and to the prolongation of life is admitted by all; that many diseases are yet beyond the reach of human skill must also be admitted; but, that there is in every sickness a quality of body or mind, or both, which is capable of recognition and influence from without seems to have escaped observation. Ancient and modern philosophers and scientists have ever struggled with the one factor which concerns us in the consideration of this subject, namely, personality. One truth shines forth—that man possesses an identity, which is neither wholly physical nor wholly psychical, but which is both, often acting through the ethical life and often independent of it; physical because it has a bearing on results which we associate with others; psychical because it is limited to the one being which, as Lotze says, is capable of being affected and producing effects. Thus, there is in every person a dual person which is susceptible to change like its physical self, but which cannot be separated either in whole or in part, from the living physical body—a being, which, while in itself, cannot be explained or influenced in the sense that physical bodies are, yet can be explained and influenced indirectly, that is, by connecting it with the physical self, a sort of parallelism between the two. That this individuality has not been capable of exact localization and description is no argument that it does not exist; even truth itself is not always possible of demonstration. Nature is constantly giving us proof that things are different than they seem. We cannot perceive this quality of individuality in man as readily as we can the quality of physical science, yet it must not only be perceived, but appreciated, if we are to do full justice to our patients. If we do not recognize the individual in sickness but rather view sickness in reference to those causes or conditions we know of (*i.e.*, pathological or others), we are apt to ascribe certain conditions to these causes. rather than ascribe them to unknown causes, hence, error. Take two individuals, having the same conditions and types of disease; when the one perishes and the other survives, we must recognize some influence other than mere physical traits in the human system. Stamina, vital force, faith, idiosyncrasy have all been offered to explain the results, and while it may be impossible to fit a term which will meet all objectors, the one fact remains, that there is something present. Again we see this self, this personality, exhibited in the form of self-discipline, sagacity, decision, honesty, etc., all of which require more than a mere physical or psychical origin for the phenomena manifested. It implies a plurality in the individual. If we believe in the present accepted theory that disease, exclusive of traumatic and mechanical disease, is due to a sort of auto-intoxication

arising from changes in materials normally present in the body, and that this alteration is subject to the same laws in a degree which regulate the organism in health, is it asking too much to admit that those qualities of mind, body, and soul, which are present in man in health may also change in sickness and become different in every essential? And as they are often the ruling forces in health, so, too, they may become such in disease; in fact, they may be the one factor in sickness requiring treatment.

FROM SADDLE-BAGS TO POCKETBOOKS

was the title of a paper read by DR. B. T. WHITMORE of New York. In olden times the doctor, whether in his gig or on horseback, was never to be dissociated from his saddle-bags. Not only were they the outward and visible sign of his profession, and the cause of his being held in high esteem, they meant what was of practical importance both to the doctor and his patients—that the doctor was his own dispenser. In those days the physician was familar with the raw materials and the processes of the gallipot. Many of his tinctures were made at the back of his own kitchen-stove, and the profession of medicine rather prided itself on the ability to make a neat pill. All this has changed with the increase of population, and the new order of things under which it is no longer necessary for doctors to make such lengthy rounds and carry with them remedies for all possible kinds of disease or passing ailment. Now the physician may carry with him his pocket-case for tablet triturates and for the hypodermic syringe, and he has ceased to be his own dispenser or the preparer of his own remedies. In the change the physician has passed along to the druggist and to the manufacturing pharmacist the responsibility for the quality of the remedial agents for which he calls in his written prescriptions. These two in practice become the adjuncts of the practitioner. By a further process of development the druggist has become and is always becoming more and more dependent on the manufacturing chemist, whose importance and consequent responsibility have been enormously increased. Manufacturing pharmacists, on whom physicians and druggists are thus dependent, have gradually differentiated into two lines: there are the manufacturers who hold themselves rigidly to open pharmacy. He is loyal both to the medical profession and to the druggists, and hence he is respected by both—as an adjunct whose special function is to attend to branches of the medical art which they have voluntarily though yielding to the force of circumstances surrendered. The second class of manufacturers are those engaged in the manufacture of patented articles or of articles made according to secret formulæ. One class of manufacturers appeals directly to the laity. The result as is well known is self-prescription, which entails a certain loss on the physician and the druggist alike, and exposes the lay user to damage of a more serious kind. The second class is more insidious in its operations. It makes public profession that it does not appeal to the laity, labels its goods "For the doctor only," asks the physician to include them in his prescription, and thus makes him the agent of his own undoing and the crippling of his assistant the druggist. When these goods are once prescribed the patient learns from the bottle what it is and when to take it, and for the future he takes it without reference to the physician. The progress to self-prescription is only a little delayed. It is none the less inevitable.

To provide a remedy for this state of things the speaker contended that it is necessary in the interest of the medical profession and of the drug profession, but to a still greater extent of that of the public, to guard on the one hand against the tendency to self-prescription, and on the other to ensure patients being provided with medicines of the quality called for by the physician. He maintained that when certain manufactured articles are in the market competing for favor, the physician should state specifically whose make he wishes used, so as to enable him to place reliance on the quality and potency of the article.

GRIP.

DR. J. E. GILCREEST of Gainesville, Texas, read this paper. He claimed that there is no specific treatment. To allay the pains and soreness, free elimination from the skin, kidneys, and intestines should be the object of treatment. He first gives calomel with soda bicarbonate in doses large enough to act upon the bowels. Acetanilid or phenacetin, alone or combined with Dover's powder, acts well. If muscular pains are pronounced he gives salicylate of sodium in 10 grain doses every two to four hours until the patient is relieved. The complications should be met as they arise. The patients should be kept in bed, and the room well ventilated and not overheated. A light diet should be given and stimulants if required.

SECTION ON SURGERY AND ANATOMY.

SECOND DAY—JUNE 7TH.

THE second day's proceedings were opened by DR. A. I. BOUFFLEUR of Chicago, who read a paper, entitled

DESMOID FIBROMA OF THE ABDOMINAL WALL AND PLASTIC OPERATION FOR THE SUCCESSFUL REPAIR OF THE DEFECT CAUSED BY ITS REMOVAL.

He said that these tumors extend inward and may be mistaken for an intra-abdominal growth. They have a tendency to infiltrate. Desmoids occur in the abdominal wall. The essayist spoke at length regarding the method of operation. In the case reported the wound healed in ten days and there was no return of the growth.

OBSERVATIONS ON PREVENTION OF SURGICAL SHOCK AND COLLAPSE, BASED ON CLINICAL AND EXPERIMENTAL EVIDENCE

was the title of the next paper, by DR. GEORGE W. CRILE of Cleveland, Ohio. He said that collapse is due to impairment of the vasomotor system. The organism responds to stimuli until changes are no longer produced and shock prevails. Collapse is due to marked interference with the primary respiratory and circulatory organs, or with the pneumogastric nerve and its branches. If pressure is exerted on the brain and an anesthetic given, shock is more frequent. The omentum is the antithesis

of the peritoneum. Manipulation of the latter causes a fall of blood-pressure. Mechanical stimulation of the uterus, tubes, and ovaries causes a rise of blood-pressure, that of the testicle a fall. In joint operations shock is due to cutting through nerves and not through bone.

DR. LEVINGS of Milwaukee spoke of the mental and physical condition of patients prior to operation. Rapid work, control of hemorrhage, and a small amount of anesthetic form the tripod upon which lives depend. He advocated the use of strychnin for the heart and nervous system. In impending shock nitroglycerin and whisky should be given hypodermatically.

DR. A. D. BEVAN of Chicago then read a paper, entitled

OPERATION FOR UNDESCENDED TESTICLE AND CONGENITAL INGUINAL HERNIA.

He spoke of the malformation, malposition, and location of the testicles, the mental effect produced by undescended testicles, the dangers of their presence, and the justification for surgical interference. The rule ought to be to transplant every undescended testicle if it can be palpated. A retained testicle may become carcinomatous. Undescended testicles are sterile as a rule. The operation is more successful than generally supposed. He makes a three-inch incision over the canal high up, and splits it open; he then draws out the testicle, and runs the finger along the vas, separating the peritoneum for two or three inches; then along the spermatic vessels and removes all covering from the cord. A pocket is made for the reception of the testicle, and the inguinal canal is restored by Bassini's method or without transplantation of the cord. The age of selection for the operation is fifteen years. This operation is to be preferred to castration.

CONTRIBUTION TO THE TREATMENT OF SPINAL CARIES

was the title of the next paper, read by DR. GEORGE R. ELLIOT of New York. He referred to the different mechanical inventions, and the work of Sayre and Taylor, to the various kinds of corsets, and the material used. Suggestions by his patients had aided him in perfecting his apparatus.

DR. ERNEST LA PLACE of Philadelphia opened the afternoon session by an interesting demonstration on alcoholic preparations of the use of his new forceps for intestinal anastomosis.

DR. DUDLEY P. ALLEN of Cleveland then read a paper on

EXTROPHY OF THE BLADDER

and, after describing in great detail the principal operations for the relief of this condition, said that there are two great objections to these operations: first, they do not prevent the constant dribbling of urine; secondly, the skin flap which is turned in to form the anterior bladder wall contains either hair or hair follicles on which occur incrustations of phosphates or other urinary sediments, which are a source of great pain to the patient. He did not wish to discuss the etiology of this most distressing lesion, but simply to report one case which he brought before the meeting and on whom he had performed Maydl's operation with the greatest success. It may be remarked *en passant*, that this is the first successful case of Maydl's operation ever performed by an American surgeon. The case was a typical one of extrophy in a boy, aged fourteen years, and the operation was as follows: All of the exposed mucous membrane of the bladder is removed except that portion which is immediately around the opening of the two ureters. Then the abdomen is opened, the ureters are mobilized, and the sigmoid flexure of the colon is drawn out of the abdominal opening. A longitudinal incision is made in the intestine and the extremities of the ureters, with their mucous covering, are inserted into the sigmoid flexure and then made fast by a series of sutures. When this has been done the intestine is dropped back into the abdominal cavity, and the abdominal wound is closed. The rectus muscles are then split on either side and the divided portions are united in the median line, thus repairing and greatly strengthening the defect in the abdominal wall. The sphincter ani is then thoroughly stretched and a drainage-tube is carried well up into the rectum. In this case the boy is able to hold his urine for from five to six hours during the daytime and does not have to arise at night to urinate. There is perfect tolerance of the rectal mucous membrane to the urine, and instead of being ostracized from his friends and society he is now welcome to both and is perfectly comfortable.

DR. C. A. WHEATON of St. Paul then read a paper, entitled

EXTROPHY OF THE BLADDER,

and said that the exact etiological factor in each case is a very difficult one to accurately determine. The correction of this terrible infliction has been a problem to surgeons since the earliest times. An exhaustive review of the literature was then made, with special reference to Brown's article in Morrow's "System of Genito-Urinary Surgery." The embryology of the genito urinary tract was then spoken of with especial reference to the fact that malformations in intra-uterine life may be an etiological factor, not only in this but in all congenital malformations along this tract. Very often the etiological factor is the rupture of the bladder during intra-uterine life, and that this may occur has been proven by the fact that cases are on record in which children were born with the scar on the abdomen of a rupture which had not only occurred but had healed during intra-uterine life. The bladder is active during the latter part of this life, and blocking, which would prevent its regular evacuation, would cause a rupture. He then reported three cases that had recently come under his observation, one of perineal hypospadias, one of penile epispadias, and one of aggravated epispadias, with extrophy of the bladder. For the relief of this last case Wood's operation was performed with fairly good results.

The discussion on these two papers was opened by DR. RUDOLPH MATAS of New Orleans, who said that the work of the last few years had been a distinct advance, and had opened up a wide field of surgical progress. It would now seem as if there was a good prospect for a radical cure of these peculiarly distressing and seemingly hopeless cases. After discussing at length the history

and statistics of the various operations proposed for the relief of this condition he stated the following conclusions:

1. Maydl's operation is the best and when its technic is improved it will be an ideal method of radical procedure, despite the fact that the element of risk of ascending kidney infection can never be entirely overcome.

2. All autoplastic methods are simply palliative and unsatisfactory, except that they have a cosmetic effect.

3. The relative mortality of the Maydl operation cannot yet be definitely determined, but it has been performed thirty-three times with only two deaths.

4. It is a most laborious operation, of difficult technic, and should be only undertaken by men of long experience in abdominal surgery.

5. It should only be applied to those subjects that can stand a large amount of shock, and whose kidneys are healthy.

DR. DE FORREST WILLARD of Philadelphia said that as the result of a long experience he had come to the conclusion that all operations were very unsatisfactory, and that the cases are usually hopeless. Many cases will demand three or four successive operations for their relief. The Maydl operation is, however, a step in the right direction, though bad in technic and increasing the danger of ascending infection of the kidneys. The autoplastic operations are simply valuable for their cosmetic effect, and at best are only palliative. Experience has proven the results of the Trendelenburg operation to be very bad. No matter what operation be performed care should be taken to use a flap that does not contain hair follicles, as the deposit on them of urinary salts is a source of constant pain to the patient.

DR. EASTMAN of Indianapolis said that the Maydl operation was not indicated in every case, and was distinctly contraindicated in those cases in which the kidneys were already infected. One case of this character had come to him for operation recently in which pyonephrosis existed in the left kidney. He removed the left kidney and ureter, and then stitched the right ureter into the root of the penis. The patient wears a portable urinal, and from having had to change his clothing every few hours in the past twelve years is now perfectly comfortable and his clothing remains unsoiled.

DR. ALLEN closed the discussion by saying that the most important part of the Maydl operation lay in preserving intact the mucous membrane around the orifice of the ureters, as it tends to prevent an ascending infection of the kidneys.

DR. J. E. MOORE of Minneapolis then read a paper on

TUBERCULOSIS OF FASCIA,

and said that the condition of primary tuberculosis of fascia is not as rare as is generally supposed. Two va-varieties are recognized: First, when the tuberculous infiltration is confined to the surface of the fascia; this is seen especially in the fascia lata and in the fascia of the popliteal space. Second, when the infiltration is not on the surface, but goes deeper, attacking the underlying muscles. The diagnosis is to be made by exclusion and the general health is usually not affected until mixed infection has occurred. A diagnosis may be impossible without an exploratory incision. The treatment consists in removing every trace of the disease by the knife or scissors, allowing the wound to heal by granulation, drainage being secured by gauze packing. Every sinus should be freely opened, the diseased area cut away, and good drainage secured.

DR. A. F. JONAS of Omaha read a paper on

SURGERY IN KNEE-JOINT TUBERCULOSIS,

and said that there is no one uniform method of treatment applicable to every case, so every one must be treated on its merits. The cases are either mild and recent, or severe and chronic; for the former conservative methods of treatment are demanded, and for the latter the more radical methods are indicated. It is impossible to draw an exact line and say when to stop mechanical treatment and resort to operative interference. He then gave an exhaustive analysis of fifty-five cases, and from this experience he had come to the following conclusions: Excision is a well-established method of surgical procedure and should not be put off too late. Resection of the joint is often better than a long mechanical treatment, which involves much pain and suffering. Exploratory incision is most valuable and should be performed early in every case, as by it foci of inflammation are exposed and can be at once relieved before the disease has progressed.

The discussion on the two papers was opened by DR. DE FORREST WILLARD of Philadelphia, who said that the thorough excision of all diseased areas, and the opening of all sinuses is the very best method of treating fascial tuberculosis. No caustic can compare with the results obtained by free excision with knife and scissors. The treatment of tuberculosis of the knee should be carried out with a due regard for the age of the patient. Erosion is a better operation for children than excision, as the latter operation always results in some shortening. Excision is a better operation than erosion for adults, and it and amputation should be reserved for them.

Injections of iodoform emulsion are worse than useless as they do harm by increasing suppuration instead of diminishing it. The diagnosis should be made early and the appropriate treatment at once instituted.

DR. SHERMAN of San Francisco said that he had seen fascial tuberculosis around joints and advocated early operative interference. The X-ray is often a valuable aid to diagnosis, but exploratory incisions should be made early in doubtful cases.

DR. MOORE closed the discussion by saying that amputation or erosion is to be preferred to excision in young children. After the age of puberty excision is the operation of choice, and this failing amputation should be performed. The injections of iodoform have been repeatedly proven to be absolutely worthless.

DR. JONAS closed the debate by saying that the term conservatism means conserving or the preserving of the function of the diseased part, and to do this often meant the free use of the knife which, in the end, may be the most conservative method of treatment. Too much importance can not be laid on the value of an early ex-

ploratory incision, the subsequent treatment being largely governed by what this shows.

DRS. W. W. KEEN and W. S. JONES of Philadelphia then read their paper on

TWO NOVEL CASES OF SURGERY OF THE TRACHEA. (1) STRICTURE OF THE TRACHEA SUCCESSFULLY REMOVED BY OPERATION. (2) SUCCESSFUL REMOVAL OF A DIAPHRAGM IN THE TRACHEA FOLLOWING CUT THROAT AND PRODUCING APHONIA.

In the first case, that of a woman, the stenosis was just below the cricoid cartilage, and extended over somewhat more than one ring. Dilatation being found impossible, operation was decided upon, and this was performed by exposing the trachea by an incision in the median line. The trachea was then incised, and the upper border of the stricture was found to be at the third tracheal cartilage, and extended over the third and fourth to the upper border of the fifth. The fibrous tissue forming the stricture was then dissected out, and the wound in the trachea closed by catgut sutures.

Primary union took place, and the patient made an uninterrupted recovery. Laryngoscopic examination two months after the operation showed slight redness of the vocal cords. The tracheal stricture shows no tendency to recur, and her voice and breathing are perfectly normal.

The second case occurred in a man as the result of an attempt at suicide. A tube was introduced into his trachea at this time, and allowed to remain in situ for some time. Then it was found that a membrane had formed across the trachea above the tube. The man had not breathed through his larynx or spoken a word since the accident. An operation was decided upon, and it was performed by making an incision extending from the tracheotomy opening to the cricoid cartilage. Then in attempting to puncture the membrane through a mistake it was found that the oesophagus had been incised instead. This opening was at once closed with Lembert sutures. Then the membrane was incised and dissected out. The two ends of the trachea were now sutured together by four silk sutures upon each side, and two posteriorily. The wound healed by first intention, and he made an uninterrupted recovery. His voice was slightly hoarse, but not to such a degree but that one would think it was his normal speech.

DR. CRILE of Cleveland opened the discussion by saying that he had had a similar case in which there was complete stenosis of the upper part of the larynx at the border of the vocal cords. The operation was performed by dissecting out the cicatricial tissue, and preventing recicatrization by the introduction of a tube through the larynx. The patient is making an uninterrupted recovery.

DR. M. L. HARRIS read a paper, entitled

LONGITUDINAL SILVER-WIRE SUTURE IN THE CLOSURE OF WOUNDS,

and said that the aim of every operator should be to secure primary union, and this was best accomplished by securing accurate coaptation of the edges of the wound. The absolute sterilization of the suture material employed is most important. Silver wire is the easiest of all known suture materials to sterilize. It having been shown by repeated experiments that it is impossible to render the skin germ free, a suture material should be employed that will not allow fluids to pass along it by capillary attraction. Silver wire, silk-worm gut, silk and catgut are best in the order given as regards their power of not allowing this action. Wire may be used as a continuous wire suture in every case in which the accurate approximation of a wound is desired. The principal advantages of this suture material are: It secures perfect coaptation, the technic of its application is simple, it is easily sterilized, is non-yielding, and can be easily removed whenever desired.

DR. J. C. MONROE of Boston then read a paper on

LAMINECTOMY, WITH REPORT OF CASES.

He said that though this was a major operation it should be more generally employed. He had performed it in eighteen cases, three of them acute traumatic cases, with good results. He then described these cases in great detail, and the operation of laminectomy. This operation is often of great benefit in seemingly hopeless cases. Speed and accuracy in operating are most important factors of success, and the operation should not be attempted until the patient has reacted from the shock following immediately on the traumatism.

DR. FERGUSON of Chicago opened the discussion by saying that this operation often afforded but little relief and was far too serious to be undertaken in many cases, but where there were distinct pressure symptoms it should always be undertaken.

DR. BOUFFLEUR of Chicago said that experience had taught him that operative interference was indicated during the stage of shock, as the relief of the lesion by the laminectomy often cured the shock.

DR. FRANCIS D. PATTERSON of Philadelphia said that he had had the opportunity of assisting Dr. Edward Martin in a laminectomy on a case of cerebrospinal meningitis. The patient was a child aged eight on whom all known medical treatment had been tried with no avail. The child's temperature was 105° F., the pulse ranging from 160 to 190, and Cheyne-Stokes breathing was present, as well as the typical symptoms of the advanced stage of the disease. The outlook was a hopeless one without operation, so a lumbar puncture with a small aspirating needle was performed, and about three ounces of cloudy flocculent cerebrospinal fluid were withdrawn. Some slight relief followed, but on the next day the patient's condition was again so desperate that the operation was repeated. Again relief followed, but some hours later the symptoms were as serious as before. So laminectomy was decided upon. The skull was trephined over the cerebellum on the chance of a cerebellar abscess being present, but repeated probing failed to show any localized foci of suppuration.

A laminectomy was then performed, considerable cerebrospinal fluid withdrawn, and the wound packed with gauze so as to secure drainage by capillary attraction. Twenty-four hours later the child was much im-

proved, and some hours later there was an entire disappearance of all the symptoms. Unfortunately, some fifty hours after the operation the child developed acute edema of the lungs and died. Bacteriological examination of the cerebrospinal fluid showed a pure culture of the meningococcus intracellularis.

DR. J. C. OLIVER of Cincinnati then read his paper on

TREATMENT OF POPLITEAL ANEURISM BY EXCISION,

and said that he had had one case in which there was a false aneurism of the popliteal artery which had been cured by excision in the usual way.

DR. B. MERRILL RICKETTS of Cincinnati then read a paper on

FEMORAL ARTERY AND VEINS; THEIR DESTRUCTION WITHOUT LOSS OF LEG; REPORT OF A CASE,

and said that occlusion of both could take place without gangrene resulting, as was proven by his case. The exact circulation can only be known in every case by a complete dissection, and so ligation should be performed, amputation being reserved as a means to be employed when ligation has failed.

DRS. FREEMAN, LORD, and MANLEY cited cases similar to those referred to in the last two papers.

THIRD DAY—JUNE 8TH.

DR. A. F. HOUSE of Cleveland, Ohio, opened the session by reading a paper on

THE SURGICAL TREATMENT OF ACUTE PERITONITIS,

and said that the peritoneum is one of the most susceptible parts of the body to infection, especially that part overlying the small intestine. Peritonitis may be either localized or general, and the usual infecting micro-organism is the bacillus coli communis, derived from the intestinal tract. The symptoms which demand immediate operative interference are abdominal pain, referred especially to the umbilicus, tenderness on pressure, early rigidity of the muscles, especially over the point of infection, the vomiting of a green, "ropy" substance, diminution or absence of peristalsis, abdominal distention, and a rise in the pulse and temperature. The treatment of peritonitis demands exactly the same methods of surgical procedure as are indicated in septic inflammation of other tissues, and without operation the result must be a fatal one. The evacuation of pus, free irrigation, and the securing of good drainage give the patient the only chance of life, and the operation should not be postponed too long. Strong antiseptic solutions should not be used in irrigating, and the best results have been obtained by the use of physiological salt solution. If the intestines be greatly distended with gas or fluid they should be brought to the edge of the wound, incised, and their contents evacuated, and then the incision closed with Lembert sutures.

DR. OCHSNER of Chicago opened the discussion by saying that he treated peritonitis, not by operation, but by stopping the administration of all food by the mouth and feeding by the rectum. The stomach should be thoroughly washed out, particularly so if stercoraceous vomiting has set in. He had employed this treatment in a large number of cases with most gratifying results.

DR. J. B. MURPHY of Chicago said that the most important factors to be determined are an accurate diagnosis and what is the type of the infection and what will be its clinical course. In those cases in which the peritoneum has lost its gloss the cause is generally a streptococcus infection, and all these patients die. When the gloss is not gone they usually recover. But there is a middle type which no one can tell what will be the outcome. It may be briefly stated, as a rule, that infection from the lower bowel is much more dangerous than that from the upper intestine. In every case operation should be performed as soon as the diagnosis is made.

DR. MCRAE of Atlanta, Ga., said that he had collected from literature, 601 cases of general peritonitis, with a mortality of 79½ per cent. All of these patients were treated by operation and the statistics of those treated medicinally do not show a lower mortality.

DR. J. B. MURPHY of Chicago read a paper on

INTESTINAL FISTULÆ,

and said that intestinal fistulæ might be classified into those of the large intestine, comprising the duodenal, jejunal, and ileac; and those of the small intestine, comprising the caput coli, ascending, descending, transverse, and sigmoid coli. They might be classified into direct and indirect. The direct fistulæ were either immediate or remote. In the former the bowel is in immediate contact with the skin opening, while in the latter a sinus leads down to the bowel. The indirect comprise the entero-intestinal, the choleo-intestinal (comprises fistulæ of the gall-bladder, cystic or common ducts), the genito-intestinal (comprises fistulæ of the tubo-, utero-, and vagino-intestinal varieties), and the urino-intestinal (comprises fistulæ of the nepho-uretero- and vesico-intestinal varieties. Their etiology might be congenital, as umbilical, vesico-intestinal and urethro-intestinal fistulæ. They may be caused by mural disease, such as round ulcer of the duodenum, ulcer of the duodenum following burns, tuberculous and typhoid ulcers, actinomycosis, gangrene or necrosis, and malignant neoplasms. Foreign bodies such as bones, enteroliths, choleliths, the ascarides lumbricoides worms, pins, needles, nails, and buttons may also be a cause. Mural strangulations, either external or internal, are a cause. The former may be either post- or preoperative while the latter may be due to bands, properitoneal pockets, etc. Intraperitoneal infections, such as ulceration from without (as of hernial sac), perforative peritonitis, pericystic suppuration, pelvic, appendical and peri-appendical abscesses, tuberculous appendicitis and peritonitis, and suppurating cysts are frequent causes. Finally they may be due to traumatisms, as bullet or stab wounds, or abdominal contusions, such as kicks, blows, falls, etc. Intestinal fistulæ may be established by operative measures either intentionally or accidentally. To the former group belong the permanent artificial anus, established for inoperative cicatrical stenosis or malignant disease. A temporary artificial anus may be established for subsequent resection, for temporary obstruction or for the relief of distention.

Accidental causes of fistulæ are: (1) Laceration of the intestines, as in separating adhesions. (2) Impairment of the wall causing subsequent perforation. (3) Division with scalpel or scissors. (4) Compression with forceps, ligature, suture, drainage-tube or packing. (5) Injuries in parturition, as in rupture of the uterus, amputation for supposed funiculous cord, etc. (6) Currettement, through perforation of the uterus. (7) Criminal abortion, as by direct penetration of the uterus or an indirect peri-uterine perforation. (8) Vaginal intestinal perforations, as from parturient lacerations, from the use of caustics, pastes and pessaries, after vaginal hysterectomies, and from the puncture of vaginal herniæ. (9) Failure of union after enterectomy or enterorrhaphy from (*a*) infection, (*b*) defective coaptation, (*c*) intestinal ischemia, (*d*) operation on diseased wall.

The indications for operation are: (1) Close the fistulous opening in the bowel. (2) Preserve the continuity of the intestinal tract. (3) Retain all of the tract for physiological purposes. (4) Accomplish all of these with the least risk to the patient. Cure may be spontaneous and is assisted by asepsis, strapping, collodion, immobilization, and diet.

Chemical applications, such as carbolic, nitric, and chromic acids, the solid stick of silver nitrate, tincture of iodin, etc., are of no value in promoting healing. In very small fistulæ the application of the Paquelin cautery may in a few cases prove to be of benefit. The following operations have been proposed: (1) Suture of the external opening (is valueless); (2) plastic operation on the sinus and the abdominal wall; (3) removal of the central septum by some form of clamp; (4) mural separation with suture of the bowels and the sinus extraperitoneally; (5) closure of the external opening or obliteration of intermediate viscus, as gall-bladder, etc.; (6) exclusion of the portion of the intestine involved in the fistula either by lateral implantation or by total exclusion and end-to-end approximation; (7) separation of adhesions with (*a*) lateral Czerny-Lembert suture; (*b*) immediate resection with end-to-end union; (*c*) vaginal separation with enterectomy or enterorrhaphy through the vagina.

DR. D. L. FAIRCHILD of Clinton, Iowa, read a paper on

SURGICAL TREATMENT OF ABSCESS OF THE LUNG,

and said that this is a sequel in about one out of every fifty cases of pneumonia. The diagnosis is usually not difficult, but in every doubtful case there should be no hesitancy in using an exploring needle. The abscess may evacuate itself through the bronchi, but as soon as the diagnosis is made the lungs should be exposed by a resection of the ribs, the lung incised, and the abscess evacuated.

DR. E. H. LEE of Chicago then read a paper, entitled

BASSINI OPERATION WITHOUT BURIED SUTURE, FOR RADICAL CURE OF INGUINAL HERNIA,

and said that he adheres strictly to the technic of the Bassini operation except that instead of using a permanent buried suture he uses a silver wire or silkworm-gut suture that can be removed at any time desired, generally in two weeks from the day of the operation.

DR. FLOYD M. MCRAE of Atlanta read a paper on

HERNIA OF THE DIAPHRAGM, WITH REPORT OF CASES.

He said that he wished to report two cases. The first one was the result of traumatism, and part of the stomach, all of the transverse colon, and part of the small intestine had entered the thorax through an opening in the diaphragm of the size of an orange. The hernia was reduced, the rent in the diaphragm closed with sutures, and the patient made an uninterrupted recovery. The second case was one in which a knuckle of the sigmoid flexure had passed through a small congenital opening in the diaphragm. The patient had stercoraceous vomiting and was in collapse when operated upon. The hernia was reduced, the diaphragmatic opening closed with continuous sutures, but the woman, on coming out of ether, vomited and swallowed the vomit, which caused her death.

DR. RAMON GUITERAS of New York then read a paper on

SOME OBSERVATIONS ON THE BOTTINI OPERATION FOR PROSTATIC HYPERTROPHY,

and after describing the histology of prostatic hypertrophy said that three clinical varieties are recognized: (1) A uniform enlargement in all directions, the general form of the gland being preserved. (2) Irregular enlargement, to which class belong by far the greater number of cases. (3) Local enlargement, in which all the gland is normal except in one small area, which is the rarest form. After a masterly review of the symptoms the treatment was taken up. Palliative treatment tending to improve the general health, relieve cystitis and vesical irritation should be carried out in every case. Resection of the vas deferens, castration, prostatectomy, etc., have all had their day and their advocates, but the operation by the Bottini galvanocautery incisor is the best. After describing the instrument and the technic of the operation he said that Bottini has reported 200 cases, but in only 23 of them is the report sufficiently full to make the statistics of any value. All of those operations were successful, 19 of the patients are reported as having been cured in one month (!), and the remaining 4 in less than three months. Other statistics of interest are those of Meyer, 12 cases, 4 deaths; Friedenberg, 32 cases, no deaths; Lowenstein, 12 cases, no deaths; all improved; Simon, 8 cases, 3 deaths; Morton, 5 cases, no deaths; all improved; Hank, 5 cases, no deaths; fair result; Bruce Clark, 4 cases, no deaths; fair result; Krespy, 6 cases, no deaths; all benefited; and the author reports 20 cases, with but 2 deaths. This operation would seem to be the best as its mortality is lower than any other (one-half that of prostatectomy), and it can be performed without general anesthesia. Improvement generally begins nearly at once after the operation, but it does not cure in a month as Bottini reports. Time is required to cure a long-standing chronic cystitis, and to restore tone to a weakened bladder.

DR. W. M. BEACH of Pittsburg then read a paper on

SOME COMPLICATIONS RESULTING FROM RECTAL OPERATIONS.

These are (1) incontinence, (2) stricture, (3) elongation of the anal septum, (4) ulceration and hemorrhage, (5) loss of rectal sense, (6) suppuration and phlebitis.

FOURTH DAY—JUNE 9TH.

DR. LISTON H. MONTGOMERY of Chicago opened the session by reading a paper on

TRAUMATIC SHOCK

in which he discussed at length the etiology, symptomatology, and treatment of the condition.

DR. WILLIAM JEPSON of Sioux City, Iowa, read a paper on

AUTOMATIC DRAINAGE,

in which he demonstrated an apparatus which would drain by capillary attraction into a receiver exhausted by air by means of a siphon apparatus.

DR. THOS. GRANT YOUMANS of Columbus, Ohio, then read a paper on

ACUTE GONORRHEA; ITS PREVENTION AND CURE.

He said that the best method of preventing the spread of gonorrhea is by parents being particularly careful to inquire into the morals of the suitors to their daughters. As regards its treatment, the best method is by daily irrigation with a 1–4000 solution of potassium permanganate.

DR. VALENTINE of New York said that he believed that ninety-eight out of every hundred men have gonorrhea at some period of their lives. From his experience the irrigation method, with potassium-permanganate solution, is the best treatment as a general rule.

DR. FRANCIS D. PATTERSON of Philadelphia said that the only known preventive of gonorrhea is to be virtuous, as statistics show that eighty-five per cent. of all prostitutes are infected with some form of venereal disease. As regards treatment, a long experience in the genito-urinary dispensary of the University Hospital had shown that the best treatment is by the irrigation method with potassium-permanganate solution. The average duration under this treatment is about six weeks. The presence of shreds in the urine does not necessarily mean that the patient is still in the infective stage. If careful and repeated microscopic examinations fail to show the gonococcus the patient should be pronounced cured, for these shreds may be due to a granular patch in which there are absolutely no gonococci.

DR. F. C. VALENTINE of New York then read a paper, entitled

URETHROSCOPY IN CHRONIC URETHRITIS, WITH DEMONSTRATION OF A NEW URETHROSCOPE,

and, after describing the symptoms of chronic gonorrhea and the various treatments proposed for its relief, said that the best treatment is by means of direct application through the urethroscope. He then showed his new instrument which is most ingenious, and apparently a great improvement over those now in use.

DR. J. B. EAGLESON of Seattle, Wash., read a paper on

A CASE OF PANCREATIC CYST; OPERATION; RECOVERY.

He described a case in which there was a very large cyst of the pancreas which was treated by evacuation and the removal of the larger part of the cyst wall. The patient made an uninterrupted recovery.

DR. R. M. STONE of Omaha, Neb., then read a paper, entitled

THE SCHLEICH SOLUTIONS.

He said that the Schleich Solution, No. 3, is the best general anesthetic. He had used it 250 times without a single death. It is pleasant to take, hardly ever followed by vomiting, and but a very small quantity is required to produce anesthesia.

DR. J. B. MURPHY of Chicago said that he had used it in a number of cases with most gratifying results.

DR. MURPHY proposed that a rising vote of thanks be accorded to Dr. Mayo, the Chairman of the Section, and the Secretary, Dr. Harris, which was carried unanimously.

SECTION ON GYNECOLOGY.

SECOND DAY—JUNE 7TH.

DR. HENRY D. INGRAHAM of Buffalo read a paper, entitled

SPONTANEOUS RUPTURE OF THE BODY OF THE UTERUS DURING LABOR.

Rupture of the body of the uterus during labor for any cause whatever is fortunately of rare occurrence, at least in this country. In Continental Europe it is reported as occurring more frequently. For obvious reasons many cases of rupture are not reported, and it is very natural that a smaller proportion of the traumatic cases should be reported than of those which occur spontaneously. Upon investigation the essayist had found in an aggregate of about 48,000 cases of labor that 12 cases of ruptured uteri have occurred, 5 of these being traumatic, and 7 spontaneous. Most of the cases occurred in the practice of midwives. An analysis shows the greater proportion in women of foreign birth. This is doubtless partly accounted for by the fact that a large proportion of the foreign-born population of this country employ midwives. Another very probable cause is the greater frequency of contracted pelves among the foreign-born element. The death-rate of the mothers in the 7 cases of spontaneous rupture was 86 per cent., and of the children, 71½ per cent. Both mother and child died in all the cases of traumatic rupture.

UTERINE FIBROIDS

was the title of a paper by DR. T. FITZGIBBON of Milwaukee, in which he discussed the varieties and position of these neoplasms.

INDICATIONS FOR OPERATIVE TREATMENT OF POST-PUERPERAL SEPSIS

was the title of the next paper, read by DR. JOHN B. DEAVER of Philadelphia. He said that the comparative frequency with which post-puerperal sepsis occurs even at the present time with our present knowledge of asepsis in surgery and obstetrics was his reason for writing the paper. He reported a case of tubo-ovarian abscess with infection of the uterus following childbirth in which

the uterus, right tube and ovary, and left tube were removed. The patient recovered.

There are three forms of puerperal sepsis from an anatomical standpoint, all of which are infectious and due to abrasion of the mucous membrane lining the cervical canal and uterus. They are endometritial, metritial, and parametritial. The most fatal form is the metritial. It is characterized by multiple foci of infection and abscess. The endometritial is most amenable to treatment, *viz.*: curettement and thorough disinfection of the uterine canal. The parametrial form is frequently mistaken for so-called pelvic cellulitis, a name which means nothing, for all the so-called cases of pelvic cellulitis are infective processes and lead to abscess formation. On general principles the speaker believes the curette is resorted to too often. This instrument should be handled with the greatest care and gentleness; in short, it requires as delicate manipulative skill to use the curette with safety as it does the lithotrite.

Two cases of uterine perforation due to the use of the curette were reported. In one, examination revealed the presence of a loop of intestine in the vagina. At operation a knuckle of small bowel, six inches in length, gangrenous, and devoid of mesentery was found. The uterus was the seat of a perforation about the size of a 5-cent piece. Supravaginal amputation of the uterus with removal of the tubes was performed. The involved portion of the ileum was resected, and end-to-end anastomosis carried out. The abdominal cavity was thoroughly irrigated and drained. Death occurred on the evening of the fourth day from peritonitis.

Other cases of pelvic abscess were detailed and the method of treatment described. He said that these cases illustrate one important point: that the early institution of so-called radical measures is true conservatism in surgery.

The afternoon session opened with a symposium on

VAGINAL *versus* ABDOMINAL SECTION.

The first paper, entitled

THE SUPERIORITY OF VAGINAL SECTION OVER LAPAROTOMY IN SURGICAL TREATMENT OF PELVIC DISEASES IN WOMEN,

was read by DR. J. RIDDLE GOFFE of New York, who said the objections to the abdominal operation are: (1) stitches; (2) adhesive plasters, which are annoying; (3) abdominal supporter; (4) scar; (5) danger of ventral hernia. Great diversity of opinion exists in regard to the closure of the abdominal incision. By vaginal incision is implied, not simply puncture, but free incision longitudinal and transverse, and, if necessary, supplemented by incision posterior to the cervix, giving ample room for manipulation. Vaginal fixation has many objections. Shortening the round ligaments through the anterior vaginal fornix is the ideal treatment for retrodisplacements. No disadvantages during pregnancy occur and it is superior to suspensio-uteri and the Alexander operation. The objections to the Alexander operation are many, because (1) of its limited application; (2) the ligaments are often absent or weak; (3) two unsightly scars are caused; (4) there is danger of subsequent hernia, which has frequently occurred. Diseased appendages may be removed, adhesions broken up, malpositions corrected, and pelvic abscesses treated thoroughly, satisfactorily, and safely by vaginal incision. If both adnexa are destroyed total hysterectomy is indicated. The intestines may be injured, but this accident also occurs during abdominal operations, but less frequently in vaginal than in abdominal section. Ectopic gestation, ovarian dermoids, fibroid tumors of the uterus may all be dealt with by way of the vagina. The pain is much less and the convalescence smoother than after abdominal celiotomy. The simplicity, facility, and comfort of this method commend it to every operator.

THE TECHNIC OF THE VAGINAL OPERATION,

was the subject of the second paper, which was read by DR. WILLIAM H. WATHEN of Louisville.

Many cases may be treated equally well by either vaginal or abdominal section. The bisection of the uterus increases the value of vaginal section. After the uterus is bisected each half may be brought outside the vulva. I have never wounded ureter or intestine by the vaginal incision, but I have been less fortunate in operating by the abdominal method. The adhesions above often prevent the prolapse of the intestines into the vaginal incision. There is less danger of infecting the peritoneum than in celiotomy. In early tubal pregnancy the ruptured tube may be removed per vaginam unless the peritoneal cavity is filled with blood. I have operated on thirty cases of ectopic pregnancy by this method without an untoward symptom.

The next paper was read by DR. F. HENROTIN of Chicago on

WHAT BECOMES OF PATIENTS AFTER VAGINAL INCISION?

He said that it is imperative to state that vaginal hysterectomy is not and has never been offered by any rational man as a universal substitute for abdominal hysterectomy. Ablation and resection of pelvic organs short of hysterectomy are better accomplished through an abdominal opening, though reserving the propriety of using the vaginal route even in these cases in a small minority of well-indicated instances. Vaginal incision, properly indicated and properly performed, represents the very ideal of perfect and conservative surgery; for no surgery is ideal unless cosmetic and conservative as to function. Of all pelvic diseases in women which call for operative intervention and opening of the abdominal cavity probably in 25 or 30 per cent. operation can be carried out to better advantage through a vaginal incision and the remainder through a suprapubic one. What becomes of the patient after either operation depends not upon the incision, but upon the characteristics and qualifications of the man behind the knife.

The discussion of these papers was opened by DR. H. A. KELLY, who said: It is a curious fact how our views have altered in years; and to those who have been watching us superficially it might seem that we have been traveling in a circle. Dr. Goffe states the proposition correctly when he says that all other things being equal the

vaginal route is to be preferred. The abdominal method is better, as a rule, for diseases which involve the structures in the upper part of the tract, because, through the abdomen one can get at them quickly and can do all kinds of extremely delicate operations. The vaginal route is preferable for affections located in the lower part of the uterus. Our vaginal sectionists must work through the pubic arch, and more or less at a disadvantage, particularly if these structures are fixed by inflammatory adhesions. The vaginal route is the one *par excellence* for treatment of pelvic abscesses (located in the tubes and ovaries). I have written to 100 of my pelvic-abscess patients treated in this way and have received a reply from 59 operated on between 1893 and 1897. Among these 59 patients there were 38 who were in good condition, 13 absolutely well and free from all symptoms, 10 had some degree of abdominal discomfort, 5 some menstrual pain, 5 more had some menstrual and abdominal pain, 2 some rectal pain and tenesmus, 3 complained of constipation, 4 experienced improvement in their symptoms, and 5 no improvement. There were 3 deaths from uremia, 1 from general infection because the operation had not been performed in time.

DR. J. B. MURPHY of Chicago said that with a gonorrheal infection the pathology is very similar to that produced in the urethra—stricture of the tube, chronic suppuration, and if you drain by the vagina you have a stricture at the neck of the tube, which prevents drainage after the communication with the vagina has closed, and the result is retention of secretion and accumulation of infection. A suppuration of the ovary can be cured by simple drainage if the wall is not a cyst wall.

We are coming nearer to an agreement, particularly with regard to the cases that come into the hospitals on litters. If you are able to make a vaginal incision, open up abscesses, or do an operation, it is a life-saving operation and in a large number of cases followed by permanent cure. You do not have a cure in all cases, but you get such cases into a condition where, in a few weeks, when the profound symptoms of septicemia have passed away you are able to go in from above and clear up all the old abscess cavity and bring about the cure of your patient. The more experience we have the more we appreciate the vaginal route in treating certain of these conditions. Views which five years ago did not seem to us good surgery we are quite willing to endorse to-day.

DR. CHARLES P. NOBLE: The patients best suited for the vaginal operation are those brought to the hospitals extremely ill, and who are septic. Any abdominal surgeon knows that a few years ago, when we had to do an abdominal operation on patients of this class, many of them died. The class of patients I believe in draining is the puerperal class. Puerperal cellulitis and puerperal abscesses occur in the broad ligament. If there is pus in the broad ligament vaginal incision is all that is necessary to make a perfect cure. Pus-tubes in puerperal cases, if well drained, in a good percentage become well and are able to conceive. I recall eight or ten confinements among puerperal cases that had been thus treated.

While an ardent advocate of the vaginal route in this class of cases, in general I am in favor of abdominal operations. The advantages are so great that I am surprised at the ingenuity of those who use the vaginal operation.

DR. CARSTENS: I believe the abdominal route is the proper one in ectopic pregnancy. Vaginal hysterectomy is proper where you have pus-tubes associated with a retroverted, lacerated uterus, degenerated mucous membrane, constant vaginal discharge, uterus, ovaries, and tubes adherent in one solid mass. It seems to me that is one of those exceptional cases in which vaginal hysterectomy at one time will produce less shock and bring about more permanent results than any other method. If the patient is a young woman every effort should be made to save some part of her generative organs.

DR. H. O. MARCY: When Dr. Goffe tells us that by a laparotomy we injure the abdominal wall I beg leave to differ; I have taken careful notice of my last thousand cases of laparotomy, and with a single exception there has not been ventral hernia. If the operation is done skilfully you look in vain for the scar.

DR. C. A. L. REED: The idea of such a discussion as this is a happy one because it brings out the fact that the two operations formerly opposed are but supplementary. A few years ago the verdict come from England that all such conditions should be treated by the abdominal route, and from France came back the word to attack them by the vaginal route. When to adopt one operation, and when the other is to be determined clinically and upon the spot; frequently after the initial steps have been taken.

DR. HENRY T. BYFORD: The men who operate from above exclusively don't know what cases to operate on from below. More than half of the ordinary small tumors and diseased tubes can be reached by the vagina.

DR. GOFFE in closing: All the critics this afternoon have admitted that in desperate cases the safe route is the vaginal route Why? Because operations through the vagina are attended by much less serious consequences than through the abdomen. All I wish to do is to take that one principle and extend it and show how it can be applied to nearly all the conditions in the pelvis. I don't mean to be understood as advocating this route for all cases. If I cannot complete the operation through the vagina I do not hesitate to do a laparotomy. When I speak of vaginal incision I do not mean a puncture but an incision throughout the whole length of the anterior wall, dissecting off the vagina, opening up the peritoneal cavity putting in a retractor and seeing what the conditions are.

DR. WATHEN: The subject has not been discussed in the broad way that I thought it would be. The remarks of nearly every one except Dr. Goffe applied to pus cases, which is only a small part of the subject of vaginal work. The ovaries and tubes unless the adhesions are very bad can be brought into the vagina and seen as perfectly as through the abdominal wall. The condition can be treated and the ovaries returned. Where could there be more conservative surgery? Every pus case is amenable to treatment per vaginam where you go below and drain out the pus or can make an incision and take out

both ovaries and tubes. It need not matter whether it is the result of gangrene, or asepsis or what not. If you find you cannot do the work from below do a celiotomy.

THIRD DAY—JUNE 8TH.

DR. RUFUS B. HALL of Cincinnati discussed

OVARIAN AND UTETINE TUMOR DURING PREGNANCY,

and said: In properly selected cases operation for these conditions is indicated during pregnancy. The danger of abortion following operation has been very much exaggerated. No definite rule can be formulated to determine which cases will or will not abort. Pregnancy favors the rapid growth of most uterine tumors. The pregnant is not the ideal condition for operation. If feasible, the patient should be tided over until the termination of pregnancy. The position of the tumor in the uterine wall will determine whether or not operation is required. This will almost always require the sacrifice of the uterus and fetus.

In discussion of this paper DR. ROSENWASSER said: I agree with Dr. Hall in regard to operations for ovarian tumor, but with regard to fibroids I think it is a difficult question, and that it should be left to each individual case. My position is that in the case of an ovarian tumor, not enormously large and not involving the pelvic cavity you can treat it conservatively until after confinement and remove the ovarian tumor after delivery. With myomas involving the lower segment, and the woman becoming pregnant, it is only safe to operate as early as possible.

DR. RICKETTS: A number of years ago I knew of a woman who while suffering from ovarian tumor was delivered of three children within five years. As to fibroids, I recently had a case of a small fibroid of the upper segment in a woman whom I carried to full term, although I came very nearly losing her. While it is true that pregnancy complicated by ovarian tumors can be carried to full term it is a dangerous procedure to make use of.

DR. CARSTENS: When a woman is pregnant and knows she has a tumor she is very despondent and I am inclined to favor operation for the mental influence. Other things being equal her chances are just as good as when she is not pregnant.

DR. CHARLES P. NOBLE: The question of what to do with an abdominal tumor as a complication of pregnancy has passed the experimental stage. I agree with Dr. Carstens that experience shows operation done during pregnancy to have most excellent results. The reason for this is clear in that they are not septic cases. My own experience has been that if I promptly remove ovarian tumors, the patients all recover and none abort. Up to the eighth month I would take out the tumor. It is important to remove a dermoid tumor during pregnancy, and if for any reason it has been overlooked it is important to remove it promptly at the conclusion of labor, because the bruising of labor sets up gangrene. The conditions must be extreme to make it necessary to remove a fibroid during pregnancy. The patient should be allowed to go into labor unless her comfort is materially interfered with.

PROPHYLAXIS OF UTERINE CANCER

was the title of the paper which was read by DR. W. W. GRANT of Denver.

Cancer of the uterus is rare in virgins; its common site is the cervix, and its common victim the child-bearing woman. The first conclusion to be deduced from this fact is the necessity for giving Nature a freer hand in the dilating stage of normal labor and the use of all possible care and gentleness to limit traumatism in obstetric operative procedures. The desirability of medical supervision during the climacteric, and even before, must be admitted by all in order to meet certain diseased conditions promptly. My belief is that the only safe course is to repair every appreciable laceration of the cervix without waiting, and looking for evidence of either benign or malignant disease.

DR. LAPTHORN SMITH of Montreal contributed a paper on

THE PREVENTION AND TREATMENT OF CANCER OF THE UTERUS,

an abstract of which was read by the Secretary:

Cancer of the uterus is not a hereditary disease. This may shock those who have been brought up to believe in the tradition of its heredity, just as it did those who believed in the heredity of consumption when they were told that it was a contagious disease as everyone now admits it to be. Cancer of the uterus has been proved by numerous experiments to be a contagious disease probably due to a microbe which does not flourish on healthy tissues but which luxuriates on tissues of low vitality, such as cicatrices, or in women whose whole vitality is below bar.

If we believe, as Emmett has conclusively proved, that cancer of the cervix almost always begins in the cicatricial tissue in the angle of the wound, then by removing the cicatricial tissue and repairing the laceration a stop may be put to this dreadful disease.

DR. F. H. WIGGIN: The time is approaching when it will be demonstrated that carcinoma is an infectious disease. One reason why this disease is increasing is that general practitioners believe that cancer will not develop until after the menopause. It is also an important matter that the patient should be taught to return to the physician for local examination three months after each confinement, and when any injury of the uterus is found the damage should be repaired.

DR. A. GOLDSPOHN: I agree fully with the general drift of Dr. Grant's paper, but I would call attention to the fact that as a prophylactic for malignant disease the so called Emmett operation is of very little use because it does not remove the structures from which malignant disease has been proven to originate. Trachelorraphy is not competent to deal with this condition and entire amputation of the cervix is indicated.

DR. REIS of Chicago: If most women who have cancer, have tears of the cervix it does not prove that the tear has anything to do with the carcinoma. As long as we do not know the cause of carcinoma there is no use in making such an assertion as the cause being a tear in the cervix. As to operation for carcinoma, it is a mistake to

say that vaginal hysterectomy has given satisfactory results. If in two years less than half are free from recurrence, that is not a satisfactory result.

DR. MITCHELL of Cincinnati: I have been a warm advocate of the Emmett operation and I believe that cancer of the cervix rarely, if ever occurs in women who have not borne children or been the victim of abortion.

DR. HOWARD A. KELLY: We know nothing about the etiology of cancer. If I were to guess from microscopic studies and pictures of the microscope I would guess that it had nothing to do with an infecting organism. It appears to be wholly an epithelial growth. We know very well that some of the opinions we still hear of cancer being due to infection of some micro-organism are from pictures of these epithelial cells which have been mistaken for organisms. What we want to get at now is a proper modus vivendi, what is best to do at present pending the settlement of this important question. Every woman who has borne a child should be examined at least once a year by a competent physician. Suppose my rule, which sounds very wholesale, should be carried out at this present moment. Then every case which in six months or a year is coming into the surgeon's hands too late for operation, would be seen in time to eradicate the disease. I think, therefore, it is the duty of every physician who attends a woman in confinement to have her come back to his office for examination as to the extent of the injuries she has sustained and to keep her under his observation until well beyond the climacteric.

Another point which has been reiterated, and must be reiterated until men learn to obey it is that every case of atypical hemorrhage in a woman should be thoroughly investigated and if there is anything abnormal discovered in the cervix a piece should be taken out and examined microscopically or the body of the uterus curetted if there is nothing found in the cervix. The best direction for our operation is to make the widest possible local extirpation of the disease and not bother about the glands which are infected only as a rule in the latter stages of the disease in the inoperable stages of the disease. Macroscopically I give the disease a very wide berth on all sides. I do an anterior colopotomy with bougies in the ureters.

NECESSARY ABORTION

was the title of a paper by DR. W. C. BOWERS of Decatur, Ill. The reasons for premature emptying of the uterus are many, but fortunately very few of them act with any degree of frequency and the indications are rarely absolute. Nephritis, advanced tuberculosis, aneurism, valvular lesion of the heart, chorea, and peripheral neuritis of pregnancy are among the indications.

ACCIDENTAL WOUNDS OF THE FEMALE BLADDER

was read by FREDERICK HOLME WIGGIN of New York City.

Accidental opening of the bladder has, for many years, been considered one of the most serious accidents that could occur in the course of the complicated work which gynecic surgeons are often called upon to do. Injuries to the inferior surface of the bladder generally occur in the course of the separation of the uterus from this wall, when the peritoneal cavity is entered by means of an incision made in the anterior vaginal wall. The accidental opening of the bladder in this situation is less common than might be supposed.

With the present technic wounds of the bladder made in the course of operating, whether extra- or intraperitoneal, should be closed immediately and the operation continued as if the accident had not occurred; notwithstanding that drainage is not used there will be little danger of peritonitis, extravasation of urine, or hemorrhage. It is of great importance when breaking up adhesions and removing tumors, or separating the bladder from the anterior vaginal wall and uterus, to be certain whether or not the bladder has been injured, and it has been the writer's custom to test this by injection of saline solution or by the uterine sound. Catgut is the best material for suturing the bladder.

FOURTH DAY—JUNE 9TH.

WHAT SHALL WE DO WITH THE UTERINE FIBROID?

was the title of a paper by DR. D. TOD GILLIAM of Columbus, O.

On the whole I have come to look on the uterine fibroid as comparatively innocent in so far as its life-destroying propensities are concerned. In its more aggravated forms it is capable of making life unbearable, but a very small proportion of the incipient fibroids ever attain to a size to give serious trouble. I contend for greater circumspection and more conservatism on the part of the surgeon; let the small and less mischievous growths alone. In those threatening serious trouble, state the dangers and the benefits of the operation, and let the patient decide.

DR. DORSETT, in discussion, said: The question of the indication for operation in fibroid tumors may be summed up under three heads: (1) Hemorrhage. (2) Those cases indicating rapidity of growth which usually indicates malignant growth, cystic degeneration, carcinoma. (3) Those which inconvenience the patient by interference with digestion, and in which the patients are suffering more or less from ptomain poison due to the mechanical interference with the rectum and the bowels, and those in which adhesions are forming.

SECTION ON DISEASES OF CHILDREN.

THIRD DAY—JUNE 8TH.

The first paper read was by DR. COTTON of Chicago, and was entitled

SOME SEPTIC CONDITIONS IN THE ORDINARY DISEASES OF CHILDREN.

He said that we have distributed diseases under various types, yet complications and sequelæ are so frequent that the type is but a guiding landmark, and may be very widely departed from. It is interesting to note that after having wandered far from the notion that disease is a special entity always the same, but manifesting itself differently in different individuals, there has been of late a return to this idea in a certain way. In none of the ctious diseases do we fear the special disease itself so

much as its complications. Diphtheria, for instance, we have now an absolute cure for when it is pure Klebs-Löffler diphtheria, but in many cases almost from the very beginning there is an accompanying infection by some form of streptococcus. But the same thing holds true for most of the infectious diseases. In pneumonia, the cases that get beyond control in measles, the serious complications in scarlet fever, the angina and membranous affections of the throat; in influenza, the otitis media and cranial sinus involvements; in typhoid fever, the perforations are all due to a mixed infection, and usually the streptococcus is at fault. The original disease seems to make of the organism a favorable culture medium for the streptococcus. Much as we may fear tuberculosis, we fear still more the mixed infection. Streptococcemia is an important factor, and its frequency of late gives cause for the question, Is this a special streptococcus period? Meantime, bacteriology is making diagnosis more exact and, as in the past, it has brought us to the knowledge of specific causes of disease, so now it is bringing us to the realization of the modifications of disease and their true origin. This will undoubtedly change our nomenclature in the future, and as we now no longer talk of dropsy, jaundice, and biliousness, but specify the conditions these symptoms are due to, so we shall no longer talk of pneumonia, rheumatism, diphtheria and the like, but make clear just the form of these diseases we intend.

Since mixed infections are most intractable it is necessary to put forth all our therapeutic efforts against them. We are able to treat them on three lines: first by prophylaxis, making all the openings into mucous-lined cavities and, as far as possible, those cavities themselves aseptic, and keeping them so. Special precautions are necessary in this matter because the primary infection has made the organism less resistive to succeeding ones; second, specific antitoxic treatment must be employed, not alone for its specific curative effect, but because the good it does in related diseases also; third, the general supporting stimulant treatment that increases cellular resistance to microbic invasion and neutralizes the effect of changes in cell metabolism that have been already induced.

DR. HARRIET GARRISON of Dixon, Ill., read a paper, entitled

THE GRIP EXANTHEMATA AND THEIR RELATIONS TO THE OTHER EXANTHEMATA.

She spoke of the importance of distinguishing the exanthemata more carefully than has been done. During the last winter she has seen a large number of cases complicated by a striking universal exanthem, which she at first considered to be German measles, but which she finally believed to be la grippe with a rash. The exanthem occurred especially in cases which were not accompanied by high fever. High temperature seemed to destroy the toxic substances that in the other cases irritated the skin to the production of the rash.

DR. R. B. GILBERT of Louisville, Ky., presented a paper (read by DR. SOLOMON) on

THE TREATMENT OF SCARLET FEVER AND THE PREVENTION OF ITS COMPLICATIONS.

As a matter of prophylaxis for other children the strictest quarantine should be maintained, and especially a point that is sometimes overlooked, all cats and dogs should be rigidly excluded from the room, as they are now known to be favorable carriers of infectious material. Inunctions are very important for the same purpose, but it must be remembered also that they are therapeutic in action, inasmuch as they allay itching, and so quiet restlessness and reduce fever. For ordinary temperatures no treatment is required; for temperature of 103° F., quinin with phenacetin; for hyperpyrexia with delirium, cold bathing. When the child is restless chloral should be given rather than opium, as it has less tendency to interfere with kidney function, and that is very important in scarlatina. From the beginning iron and supporting treatment should be given to prevent the anemic debilitated conditions that so often follow the disease. Despite the old medical adage never give iron during fevers, this treatment does good always. Hot lemonades encourage the skin function, and so prevent the throwing of too much eliminative work on the kidneys.

DR. I. N. LOVE of St. Louis read a paper, entitled

THE USE OF THYROID EXTRACT IN JUVENILE OBESITY.

Last year he had reported four cases of juvenile obesity treated with favorable results by thyroid extract. He has now had three additional cases, and is encouraged to go on with this treatment. A sample case is as follows: Boy of twelve years; weight 130 pounds; disinclined to take exercise; rather slow and dull at school.

After four months of treatment he has lost twenty-five pounds in weight, has grown able and willing to take exercise, and has become mentally much brighter, and is rapidly making headway at school. It is this last feature, the overcoming of the intellectual hebetude that is especially gratifying to the patient himself and his friends. The dose of thyroid extract given to children is half a 5-grain tablet three times a day, noting the effect, and gradually increasing the dose to 5 grains three or even four times a day. To overcome the depression that sometimes accompanies thyroid medication, he administers $\frac{1}{100}$ to $\frac{1}{60}$ of a grain of strychnin with it.

SECTION ON NEUROLOGY AND MEDICAL JURISPRUDENCE.

THIRD DAY—JUNE 8TH.

DR. HERMAN H. HOPPE of Cincinnati read a paper on

POLIOMYELITIS ANTERIOR ACUTA ADULTORUM.

He said that this disease, while described many years ago by M. Myers, is of extreme rarity, and he placed on record two well-marked cases. The first was that of a man, aged twenty-eight years, whose mother had died of tuberculosis, and whose sister had caries of the spinal column. He fell to the floor and had to be assisted to a chair. On the evening of that day he had to be carried on account of the involvement of the right leg. Forty-eight hours after the onset of the paralysis there was present a complete motor paralysis of all four extremities, together with the muscles of the neck, so that the patient was unable to raise his head from the pillow or move it from side to side. The treatment was by ergotine for the

first three days, and after that for two weeks small doses of iodin, and bichlorid of mercury for three weeks. After the third week massage and general faradization was given. Massage and the electric treatment were kept up for two years. Four years after the attack the patient was sufficiently restored to walk without an effort on the level, but has some difficulty in climbing steps. The muscles, especially those of the legs, have not returned to their normal size, but the patient thinks he has fully recovered.

The second case was in a man, aged forty-eight years, who was perfectly well up to a month before his admission to the hospital when he was attacked with diarrhea. One week before admission he noticed a weakness in the left leg. The right leg became involved on the following day, and the third day the patient was unable to walk, his arms became paralyzed, and he was perfectly helpless. There was no hyperesthesia or abnormal sensation of any kind. The mental condition was good. The electrical examination in both cases showed an almost complete reaction of degeneration in all muscles of the body. The treatment was by ⅓-grain of bichlorid of mercury, and $\frac{1}{60}$ of a grain of sulphate of strychnin, every four hours, together with a hot bath every afternoon. In three weeks he was able to walk alone with ease, and was able to use all the muscles of the body, but the movements were characterized by great weakness.

DRS. F. W. LANGDON and ALBERT H. FREIBERG of Cincinnati presented a paper, entitled

PACHYMENINGITIS EXTERNA CERVITIS, PROBABLY TUBERCULAR; RECOVERY.

The lesion was in the cervical region, and the symptoms were entirely relieved by stretching.

DR. AUGUSTUS A. ESHNER of Philadelphia read a paper, entitled

HEMORRHAGE INTO THE PONS VAROLII.

The patient was a colored man, seventy years old, who was admitted to the Philadelphia Hospital complaining of pain in the back and hips, and of headache. Some muscular twitching was noticed, but this grew less for a time. Later, however, the twitching increased and active delirium developed. The patient passed gradually from stupor into coma, while the nervous irritability increased, the head being retracted, and the jerking in various parts of the body being marked. Death resulted thirteen days after admission. On post-mortem the brain was found to be small, weighing only 1210 grams. The vessels at the base were somewhat stiff, while those in the fissures exhibited nodular atheroma. The pia on the anterior and lateral surfaces of the pons and medulla was deeply pigmented. The meninges of the convexity were somewhat opaque. In the left half of the pons, about midway between the median raphe and the superficial origin of the fifth nerve, was a small, dark-red, apparently recent extravasation of blood about 2 mm. in its several diameters. Transverse section of the pons disclosed a second extravasation of blood, also about 2 mm. in diameter, almost in the middle line, 4 mm. in front of a line joining the two fifth nerves, 7 mm. from the anterior surface of the pons, and 25 mm. from the upper surface of the quadrigeminal bodies. The ependyma of the lateral ventricles was rough and granular, especially in the fornices, in the anterior horns, and in the region of the foramen of Monro. The gray matter of the cerebral cortex was variable in thickness, and generally paler than normal. The patient had been looked upon during life as suffering from uremia, and treatment was directed accordingly. In view, however, of the developments of the autopsy, it is not impossible that at least some of the symptoms were related to the hemorrhage into the pons.

DR. W. A. JONES of Minneapolis read a paper, entitled

PROBABLE BRAIN TUMORS WITH RECOVERY.

The patient, a lad aged sixteen years, was taken ill with what appeared to be an ordinary attack of indigestion accompanied by severe headache, but his symptoms steadily grew worse, and pointed to the presence of a cerebral lesion. There was nausea, vomiting, and pain over the frontal region, particularly the right eye. He had pain on percussion over the right orbital region. He was put through the usual course of cathartics and intestinal antiseptics, without benefit, but was relieved of his pain by a small hypodermic of morphin. The following day he cried out in paroxysms of pain, demanding firm pressure over the right eye, complained of vertigo, and exhibited violent temper. On the tenth day of his illness he showed a paresis of the internal rectus of the right eye, while the pupil was slightly enlarged, and did not respond promptly to light. Ten days later there appeared a paralysis of the external rectus of the left eye, and a mild hemiparesis of the left side of the body, including face, leg, and arm, with increased knee-jerks, and ankle-clonus on the same side. He gradually begen to improve, and in three months after he was first seen he was practically well. The treatment was principally iodids by inunction. For three consecutive weeks he was rubbed every twenty-four hours with an ointment containing 4 grains of the red iodid of mercury, and 21 drams of iodid of potash, dissolved in hot water and lanolin.

DR. W. J. HERDMAN of Ann Arbor read a paper, entitled

THE PHYSICIAN AS A WITNESS IN COURT.

He detailed some of the prevalent abuses of medical expert testimony, and stated that the following suggestions might be made, as taken from three plans originating in New York, Pennsylvania, and Illinois: (1) Experts should be appointed by the trial judge. (2) Their compensation should be made a part of the expenses of the court. (3) They should have abundant opportunity to investigate all the facts of the case on trial as far as they have a bearing upon the opinion they are expected to deliver. (4) That opinion should be given to the court in writing signed and sworn to. (5) Any dissenting expert opinion must be also in writing, and contain a statement of the grounds on which the dissent is based. (6) The experts may be sworn as witnesses and cross-examined, but the range of the cross-examination is not to extend beyond the limits of the subjects embodied in the opinion which they have been asked to express.

DRS. WHARTON SINKLER and F. SAVARY PEARCE of Philadelphia contributed a paper, entitled

FAMILY DISEASES.

They gave conclusions based on 16,500 cases of nervous diseases. Out of this total there were only 50 cases in which a disease could clearly be traced as hereditary.

REVIEWS.

RETINOSCOPY IN THE DETERMINATION OF REFRACTION AT ONE METER DISTANCE, WITH THE PLANE MIRROR. By JAMES THORINGTON, M.D., Adjunct Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine; Assistant-Surgeon to Wills Eye Hospital, etc. Third edition. Philadelphia: P. Blakiston's Son & Co., 1899.

THE first edition of this excellent little manual appeared as an abstract of the author's previous writings and lectures on the use of the shadow-test. It met with immediate favor, and to-day ranks with "Skiascopy" by Dr. E. Jackson as the standard work on this subject. The present edition has been still further improved by a few changes in diction, and by the addition of five new illustrations, and forms as complete and practical, although concise, a guide as could be desired.

THE READY-REFERENCE HANDBOOK OF DISEASES OF THE SKIN. By GEORGE THOMAS JACKSON, M.D., Professor of Dermatology in the Woman's Medical College of the New York Infirmary, and in the Medical Department of the University of Vermont; Chief of Clinic and Instructor in Dermatology, College of Physicians and Surgeons, New York. Third edition. Illustrated. Philadelphia and New York: Lea Brothers & Co., 1899.

IN these days of rapidly advancing medical knowledge, of frequent and wide publication of new clinical and experimental data, and the resulting incessant change in accepted opinion, the practitioner looks to fresh editions of standard text-books for the collection, condensation, and interpretation of what he desires as best and most modern. We believed that it is with this idea in view that Dr. Jackson has twice subjected to revision the text-book of dermatology which he offered to the profession in 1892. That the work at once secured the reputation as a standard reference for English-speaking students and practitioners is reason enough for maintaining in its re-editions its proper form and character.

Intended as a practical reference rather than as a more or less abstract treatise, the author is to be commended for maintaining the alphabetical arrangement in his text, rather than attempting descriptions along the lines of any one of the many dermatological classifications. Nosology is not altogether slighted, however, for a few pages are devoted to it in the first part of the volume.

The addition of foreign nomenclature is a highly commendable feature from both a practical and an educational standpoint—and this, in spite of the fact that a few of the thoughtless have been led to call the work "a text-book of synonyms."

While the changes in the text have not been great they have been many, and a comparison with the second edition shows numerous, careful revisions. A few new but very brief sections have been added, *e.g.*, those on sarcoides pigmentosum idiopathicum (Kaposi), blastomycetic dermatitis, etc.

The new illustrations are chiefly photographic reproductions and, like the old ones are, for the most part, excellent. The colored frontispiece (which has been unchanged in all editions) hardly deserves as much praise. It is showy, perhaps, but neither artistic nor exact, and might better have been omitted.

TWENTIETH CENTURY PRACTICE. An International Encyclopedia of Modern Medical Science. Edited by THOMAS L. STEDMAN, M.D. Volume XVII. New York: William Wood & Co., 1898.

THE seventeenth volume of this well-known work opens with a scholarly article on the pathology and bacteriology of diphtheria by Dr. W. H. Park of New York, and is followed by an equally comprehensive section on the symptomatology and treatment by Professor Jacobi. Dr. Jacobi declares that the term follicular amygdalitis (or tonsillitis) may be applied to any variety of tonsillar inflammation, catarrhal, purulent, fibrinous or diphtheritic. The writer lays great stress on the preventive treatment of diphtheria, recommends that alcohol should be given early in the disease, and in large doses, still believes in the efficacy of mercurials, and is a firm adherent of the use of antitoxin "often even before the bacteriological diagnosis has been made."

Victor Babes of Bucharest contributes an article on tetanus and Dr. Williams of Bristol one on the general pathology of cancer and sarcoma. The latter declares that the so-called cancer-cell (?) is the only real cancer and tumor germ. Dr. W. B. Coley writes on the symptomology and treatment of cancer and sarcoma. Though the efficacy of the injection of the mixed toxins of erysipelas and of the bacillus prodigiosus in sarcoma is now almost generally doubted in this country and abroad, Coley still firmly believes in the specific action of these toxins on sarcoma, especially of the spindle-cell variety. We believe, with most recent writers, that their use is only justifiable in otherwise hopeless cases. In short, the evidence that has been collected of the therapeutic value of Coley's method of treatment of sarcoma is neither convincing nor conclusive.

Dr. J. T. Bowen contributes a short article on malignant new growths of the skin and Dr. E. McGuire of Richmond a short essay on the malignant diseases of the female organs of generation. The volume would have made a much better impression on us had the last article been omitted. The section on the malignant diseases of the female organs of generation is incomplete, no mention at all is made of malignant diseases of the tubes and ovaries and the treatment of malignant disease of the uterus contains little more than one can find in the smallest text-books.

Of the seventeenth volume of the Twentieth Century Practice, as a whole, we must say that it is one of the best of the series that has been thus far issued.

INDEX.

ABDOMINAL and pelvic diseases in the female, 449, 489
operations for conditions complicating typhoid fever, 710
pregnancy, 507
sections, 670
Abortion, necessary, 811
Abrams, A., Schott treatment of heart disease, 4
Accidental improvement, 436
Acetanilid in typhoid fever, 797
sold for phenacetin, 53
Achievements of 1898, 309
Acids in refrigerated beef, 114
Acne in young people, 384
simplex, 18
Actinomycosis, 506
the diagnosis of, 62
Address, 713
Adhesion of serous surfaces, 253
Adirondack cottage sanitarium, 246
Adrenal tumors of the kidney, 736
African black-water fever, 648
Age and sleep, 307
Aguinaldo as a medical student, 437
Air and light in Colorado, 633
Albumin, aceto-soluble, 537
quantitative estimate of, 798
Albuminuria, accidental, 798
Alcohol as a wet dressing, 336
Alcoholism and phthisis, 703
Alcohol, its influence upon muscular work, 302
Aleppo boils, 572
Alexander S., prostatic enlargement, 30
Alimentary canal, disinfection of, 189
Alkaline glassware, 276
Alkaptonuria, 739
Allen, C. W., erysipelas, 426
Allentown hospital, 537
Altitude, blood changes induced by, 638
for consumptives, 635
its effects on the blood, 729
Aluminum corset, 187
Alumni of Jefferson Medical College, 593
Ambulance accident, 772
Ambulances for the Philippines, 662
American Academy of Medicine, 740
Climatological Association and the Loomis Sanitarium, 627
Electro-therapeutic Association, 663
Gynecological Society, 627, 697
ideas and inventions, 154
Medical Association, 403, 499, 695, 769
Medical Association at Columbus, 729
Medical Association, program of, 213
medical student abroad, 733
Neurological Association, 149
Orthopedic Association, 149, 731
Public Health Association, 499
Ames, A., sanitary welfare of Puerto Rico, 44
Amyl nitrite, the action of, 272
Analgesics, non-depressant, 751
Anatomical nomenclature of the nervous system, 49
Anatomy, the methods of teaching, 88
Anchylosis of the maxilla, 122
Anchylostoma duodenale, 774
Anesthesia, 463
and retained consciousness, 460
at high temperatures, 477
consciousness during, 501, 628
dangers of incomplete, 500
death from, 632
gastric lavage after, 72
the dangers of, 592
Anesthetics, the choice of, 252, 348
Aneurism, 222
of the aorta, 565, 702
operative intervention in, 560
with erosion of the sternum, 640
without pulsation, 444
Angiotribe, 707
Animal parasites and their poison, 240
vs. human suffering, 338
Ankle-joint, method of opening, 540
Annals of ophthalmology, new editor for, 178
Anorexia for pregnancy, 660
Ante-natal therapeutics, 730
Antipodes, sanitation in, 539
Antiseptic for cervical discharge, 218
Antiseptics in pediatric practice, 780
Antistreptococcic serum, 545, 704
Antitetanic serum, 211
Antitoxin bill defeated, 436
Health Board's sales of, 244, 468
in diphtheria, 476, 659
results in Chicago, 442
statistics from Chicago, 22
Antituberculosis bill, 149
Antituberculous serum and phthisical patients, 632
Antivaccination bill, 314
in Philadelphia, 180
movement, 178
propaganda, 765
Antivivisectionists and autopsies, 437
Antivivisection Society's meeting, 152
Aortic aneurism, 540, 599
aneurism and cardiac hypertrophy, 253
tubercle, 791
Aphonia, simple, cure for, 48
Apomorphin after antitoxin injections, 432
Appendical abscess, 747
Appendicitis, 125, 573, 747
Appendicitis among soldiers, 317
and ovaritis, 747
and terminology, 495, 536
an unscientific term, 507
bad methods in, 747
experiences with, 508
its operative treatment, 317
on the left side, 473
the time to operate in, 317
Appropriations for epileptics, 498
Appropriations for New York hospitals, 533
Argonin for purulent ophthalmia, 68
Army beef, 499
beef, Dr. Senn's opinion of, 402
canned beef, 145
Medical Department, 776
reform in, 735
nurses, increased pay for, 437
ration in the United States, 243
ration in tropical climates, 254
Arneill, J. R., tetanus, 491
Aromatic mouth wash, 416
Arsenic iodid in lymphatic and scrofulous children, 174
Artesian wells in London, 308
Arteriosclerosis, 395
treated by thyroid extract, 219
Arthrotomy for pain, 739
Arthritis, gonorrheal, 65
Artificial eyeballs, 528
Ascites hemorrhagic, 207
Aseptic surgery, fever in, 785
Asexualization, 110
Association of American Colleges, 743
of American Naturalists, 54
of American Physicians, 593
Astasia-abasia, 604
Asthma and quinin, 462
Astragalectomy, 239
Astragalus, fractures of, 494
Ataxia, locomotor, 434
Athletics, the effect upon the heart, 602
Atkinson, Dr. W. B., retires, 775
Atrophy of infants, 570
Atropin for delirium tremens, 336
poisoning, 346
Auto-intoxication, 444
Automobiles for the hospital, 436
Autopsies, antivivisectionists, and pagans, 210
on tuberculous subjects, 453

BACILLUS icteroides, 513
of yellow fever and molds, 478
Bacteria and low temperatures, 726
Bactericidal action in the mouth, 173
Bacteriologist for Delaware, 502
Bacteriology of drinking water, 371
Baldness, 144
stewed rats a remedy for, 218
Baptist Hospital of St. Louis, 179
Bassini operation without buried suture, 806
Beaver, Dr. D. L., death of, 596
Bedsores, 416
Behring and his rewards in Germany, 80
Bellevue Hospital appointments, 794
Medical School, 625
Benedict, A. L., gastric stagnation, 331
Berlin University, students in, 149
Beta-Eucain in producing local anesthesia, 48
Bicentennial of Yale University, 561
Bicycle riding for inguinal hernia, 317
Bicycling and heart disease, 639
Bile and infectious diseases, 408
ducts, congenital obliteration of, 751
duct, surgery of, 746
Biliary calculi in infants, 632
calculus, indications for operative treatment of, 123
colic, massage of the liver for, 694
infection, 506
Bipartisan Charities Board, 437
Birth rate declining, 533
Bites of insects, 160
Blackmailing another doctor, 91
Black-water fever, 252, 648
Blackwood, Dr. W., death of, 502
Bladder, accidental wounds of, 811
extra- and intra-peritoneal rupture of, 240
surgery of, 574
Blizzard, aftermath of the, 250
Blood, changes from altitude, 729
Bloodless tonsillotomy again, 735
Board of examiners in lunacy, 341
Bodies of the soldiers returned, 372
Boldt, H. J., stypticin, 417
Bolton, P. R., bullet wound of the lung, 763
Bones, syphilitic pains in, 544
Boston, L. N., purulent meningitis, 615
Boston's public baths, 178
Bottini operation for prostatic hypertrophy, 806
Brain, concussion of, 572
injuries, 301, 691
surgery of the, 571
tumor, recovery, 813
Breadwinner begun at thirty, 563
Breasts, care of, 288
Breeding, W. J., empyema, 762
Brewer's yeast for boils, 432
British Association for the prevention of consumption, 90
Bristow, A. T., antistreptococcic serum, 545
Brodhead, G. L., eclampsia, 552
Broken neck and recovery, 252
Bronchiectasis with fetid expectoration, 192
Bronchitis and pulmonary congestion, 160
during grip, 512
Brooklyn Branch of the State Medical Association, 178
Memorial Hospital, 139
new dispensary in, 731
Brower, D. R., crime, 719
Browning, C. H., acute yellow atrophy of the liver, 692
Brown, Sir Thomas, the skull of, 630
T. R., diagnosis of trichinosis, 12
Bubonic plague at Bombay, 307

Bubonic plague in the East, 794
plague spreading, 698
Buchner, Dr. F., death of, 626
Bull and Coley, Drs., in Philadelphia, 538
C. S., syphilis of the eye, 609
Bullet wound of the lung, 763
Bunts, F. E., post-typhoid surgical lesions, 365.
Burch, J. H., purpura hemorrhagica, 427
Bureau of Health, positions in, 408
Buried at sea, 532
Burns, 224, 622
Bursae of the hip and their diseases, 207
Burtenshaw, J. H., paracentesis pericardii, 289
Butter, tubercle bacillus in, 436

CABOT, F., cauterization, 329
F., rabies, 321
R. C., Litten's diaphragm phenomenon, 456
Calcium chlorid in gynecology, 336
Calomel in pneumonia, 477
Calot's forced reduction method, 122
Campbell, Dr. W. C., death of, 213
Camp crematories, 768
Campho-menthol inhalation, 116
Camphoric acid for night sweats, 494
Camphor poisoning, 366
Camps, malaria in, 700
Canaries and tubercle, 773
Cancer and consumption, relative death rates from, 651
and epithelial overgrowth, 371
and peritonitis, 565
and trauma, 559
bacillus, 466
cataphoric treatment of, 797
hospital, 664
increase of, in Prussia, 461
inoperable, treatment of, 463
its frequency and nature, 385
its nature and frequency, 188
micro-organism of, 504
number of *The Practitioner*, 499
parasite, 557, 667
statistics, 468
the cure of, 632
the increase of, 399
Canned beef for the army, 145
food in the French army, 374
Canon-Pfeiffer bacillus, 566
Capitonnage for hydronephrosis, etc., 411
Carbolic acid poisoning, 398
Carbuncles, 792
Carcinoma and pigmented moles, 528
Cardiaphobia, 514
Cardiac asthenia of pneumonia, 639
degeneration among soldiers, 158
disturbances and thyroid treatment, 336
energy, 598
failure, 183
pain in hysteria, 416
murmurs, functional, 639
rupture, 639
Carmichael, D. A., leprosy, 93
Carroll, J., bacilli of yellow fever and cholera, 513
Castration, and its effect upon women, 272
Cataphoresis for ulcer, 629
Catarrh in children, 360, 391
Catheterization of the ureters, 284
Cat, hysteria in, 698
Cauda equina, tumor of the, 629
Cauterization of wounds infected with the virus of rabies, 329
Cavendish, death of, 307
lecture, 212, 498
Celiotomy, post-operative treatment of, 748
Centenarian, suicide of, 697
Century of medicine in America, 717
Cerebellar abscesses following mastoid disease, 62
Cerebral diseases and respiratory failure, 723
injection of antitetanic serum, 211
injuries, 691
Cerebrasthenia, 431
Cerebrospinal fever, 598
meningitis, 436, 685, 745
meningitis and enteric fevers, 771
meningitis at Lancaster, 502
meningitis, drainage for, 559
Cervical cord, traumatic lesions of, 318
vertabræ, fracture of, 156
Cervitis external, 813
Cervix and vagina, sensitiveness of, 110
Chancroid, treatment of, 335
Chandler, President of the Society of Chemical Industry, 563
Chapin, H. D., pharyngitis and tonsillitis, 267
Charcot, a monument to, 22
Charities, 280
the investigation of, 135
Charity ball, proceeds of, 440
Charter of medical college revoked, 280
Chemistry, inorganic, 435
Chester Hospital, 90
Chicago Board of Health, 119
clinical school, 244
contribution to antitoxin statistics, 22
dental charity, 436
health statistics of, 60
hospital, 737
Laryngological and Climatological Society, 216
Chickamauga, death-rate at, 341
Chilblains, 288
and cold feet, 316
Childbirth, sudden death after, 271
Child training, the methods of, 280
Chimes Brothers sentenced, 92
Chinese physician in Indiana, 148
Chlorin in pneumonia and diphtheria, 341
in the treatment of enteric fever, 160
treatment of diphtheria, 403
in the treatment of typhoid fever, 161
Chlorosis with dyspepsia, 660
Cholecystectomy, 749
Cholecystitis, 526, 798
Cholelithiasis, 570
Cholera, bacillus of, 513
in India, 697
morbus, 288
Chloroform water, 727
Christian science, 149
an investigation of, 79
fails, 23, 213, 393
in Chicago, 171, 731
interferes, 373
in the practice of medicine, 623
MEDICAL NEWS' investigation of, 75, 107, 139, 168
scientist prosecuted, 626
scientists, a rebuff for, 61
scientists, restrained, 732
scientist's suicide, 37
Church, Dr. W. S., election of, 503
Cinematograph, exhibitions of surgical operations, 151
Cleaveland's case reopened, 767
Cleveland General Hospital, bulletin of the, 631
Climate in the treatment of tuberculosis, 624
Climatic and serum treatment of tuberculosis, 799
treatment of phthisis, 668
Climatological Association, 626
Clinical lessons in serum-therapy, 340
Club foot, 574
Coates, Professor Joseph, death of, 251
Code of ethics not narrow or antiquated, 320
Cod-liver oil, 654
a delicacy, 436
substitutes for, 504
Coffee, the consumption of, 587
Cold and massage, 591
effect of upon newborn children, 505
resistance of bacteria to, 726
Colds, infectiousness of, 594
Cold waves and disease, 639
College of Physicians of Philadelphia, 57
Collins, J., treatment of headache, 129, 164, 204
Colloidal silver and blood-poisoning, 78
Colon bacillus the cause of pancreatitis, 92
its relation to intra-abdominal tumors, 377
resection of, 398
Color sense of railway employees, 784
Colored and white children, physical differences between, 115
home and hospital, 499
Columbia, good showing for, 196
Columbus meeting of the A. M. A., 729
special trains to, 593
Comfort and recovery, 208
Comparative mortality among the married and single, 466
Complications of influenza, 303
of typhoid, 345
Conditions of medical education in the South, 743
Congenital dislocation of the femur, 505, 512
Congress of Gynecology and Obstetrics, 664
of medical ethics, 374
of American physicians and surgeons, 562
Conjunctiva, acute inflammation of, 171
Connecticut school-boys physically deficient, 178
Conner, L. A., cerebrospinal meningitis, 685
Conscience clause, 630
Consciousness during anesthesia, 460
Conservative gynecology, 710
Constipation and massage of the gall-bladder, 144
in acute meningitis, 279
in infants, 493, 750
Consultations by wholesale, 772
Consumption, a crusade against, 181
the crusade against, 217
Consumptive, preventive care of the incipient, 197
Consumptives and the State, 159
Consumptives' hospitals in New York, 149
Contract medical service, 82
Contagious disease, study of, 51
diseases, suppression of report of, 736
Convalescent home, 245
Convulsions, infantile, 780
Cook County Hospital, 60
County Hospital, examinations for, 216, 567
County Hospital, internes at, 625
Cooke, Dr. Thomas, death of, 346
Cook's South African expedition, 466
Cornell Medical College, 341, 768
Coroner's inquests, 732
physician, 408
Corrosive sublimate, deep injection of, 667
Coryza, 30
Crampton, Dr. H. E., death of, 732
Cremation increasing, 539
Crime, medical aspects of, 719
Crural ulcers, treatment of, 432
Cuba and Puerto Rico, 14
the climate of, 340
Curtis, B. F., fever in aseptic surgery, 785
Cystitis, 352
micro-organisms of, 18
Cystotomy, drainage after, 621

DANGERS of anesthesia, 592
Davis, L. D., psuedo-diphtheria bacillus, 520
N. S., Jr., valvular affections of the heart, 753
Dawbarn, R. H. M., shock, 229
tonsillar hemorrhage, 619
Deaf mutes, State aid for, 276
Deafness, exercise as a treatment for, 381
improved under mechanical exercise, 473
Death after abdominal operation, 740
during sleep, 23
during the honeymoon, 373
from fright, 150
rate from cancer and consumption, 651
rate, increase in, 767
rate in New York City, 617

Deaths in the army, 340
Debt of the public to the profession, 569
Deffenbaugh, W. S., quinin in malaria, 27
Degeneracy, factors in the production of, 340
Delaware, new bacteriologic laboratory for, 794
Delivery through the placenta, 397
Deltoid paralysis, 473
Dennis, Dr., compliment to, 562, 699
Dental degrees and the Medico-Chirurgical College, 402
Dentifrice, 96
Dentistry, elevation of the profession of, 307
Dentists for schools, 242
Dermatitis from poison in clothing, 115
Dermatological Congress, 562
Dermatology, progress in, 621
Dermoid fibroma, 801
De Schweinitz, Dr. George E., made emeritus professor, 28
Dewar, Professor, 402
Diabetes mellitus, 589
Diabetic coma, 590
gangrene, 398
Diagnosis of gastric stagnation, 331
Diagnostic trifle, 274
Diaphoretic in nephritis, 32
Diaphragm phenomenon, 456
Diarrhea in children, 660
irrigation of the bowel in, 728
of infancy, 792
Diarrheal diseases in children, 792
Diazo-reaction in typhoid fever, 123
Didactic lectures antiquated, 214
lecture by phonograph, 50
Dietetic management of infants, 759
Dignity of the profession, 49
Dilatation of the colon, 600
of the stomach, 557
Dionin for morphinism, 590
Diphtheria antitoxin, an official statement, 437
antitoxin in Chicago, 24
bacillus innocuous, 520
of the nose and throat, 352
serum treatment of, 525
Diploma, renting, 217
Discussion in neurology, 306
Disinfectant, formaldehyd gas as a, 579
Disinfection of ships at Havana, 466
Dislocation, a far-reaching, 794
of the head of humerus, 125
of the semilunar cartilage, 37
Dispensary law of New York, 529
bill, 83
law in New York, 534, 563, 565
patients, millions for, 498
position, 533
Doctor's duty as a teacher, 742
Donation to the Children's Hospital, 442
to the halls of congress, 244
Double vagina and septate uterus, 93
Drainage, 807
tube missing, 467
Drinking-water, bacteriological test, 381
water, the bacteriology of, 371
Drug-clerk's ten-hour bill, 212
Drunkenness and insanity increasing, 23
Ductus choledochus, stricture of, 526
Dunham, Theodore, steam sterilization, 257
Duodenal ulcer, suture of, 398
Duodenum, perforating ulcer of, 476
Duties of sanitary and engineer officers, 268
Dysentery, 125
Dyspepsia and deficient muscular action, 608
and flatulence, 288
nervous, 184

EARTH, the smell of, 698
Easton, F. E., cholecystitis, 526
Eclampsia from the surgical standpoint, 552
Ectopic gestation repeated, 110
Eczema, 445
of the auditory canal, 480
Edebohls, G. M., nephropexy, 481
Edema due to chronic endocarditis, 712
Edgar, Dr. J. C., in Philadelphia, 149
Editor Mayer of New York, 662
Egbert, S., conditions of Cuba and Puerto Rico, 14
S., duties of sanitary and engineer officers, 268
S., Spanish military occupation, 170
Eggs, the whites *vs.* the yolks as food, 375
Elbow-joint, old dislocations of, 574
Electricity in gynecology, 768
Elephantiasis of the scrotum, 472
Elgin Asylum of Illinois, 59
Elsner, H. L., abscess of the lung, 353
Embalmed beef, 593
Embolism and atheromatous plate, 215
of the central retinal artery, 566
Empyema, 762
from a surgical standpoint, 639
of the frontal sinuses and intracranial infection, 474
Emulsion of mixed fats, 174
Endarteritis and gangrene, 123
Endocarditis of tonsillar origin, 606
Ends and aims of medical journalism, 743
England's inebriate act, 661
school of tropic diseases, 52
English, W. P., cardiaphobia, 514
Enteric fever treated by chlorin, 161
Entero-anastomosis, 680
Enterocolitis, mucomembranous, 173
Enteroptosis, the pathogeny of, 173
Eosinophiles in the blood in trichinosis, 12
Epidemic of poliomyelitis, 101
Epidemics and meteorological conditions, 639
the origin of and some analogies, 112
Epididymitis relieved by salicylates, 694
Epileptic Colony at Oakburn, 470
Epileptics at Manchester, 666
biological conditions in families of, 693
Epilepsy, 32
devious manifestations of, 377
idiopathic, 669
resection of the cervical sympathetic in, 492
Epiphysial separation in the femur, 92
Epistaxis cured by poultices, 78
fatal, 606
Epithelial cells and connective tissue, 440
cells, transformative powers of, 433
overgrowth and cancer, 371
Epithelioma of the penis, 137
Erysipelas and its treatment, 426
ecthol for, 590
treated by heat, 174
Erythematous lupus, 160
Esophageal stenosis following scarlet fever, 122
stricture treated from below, 253
Esophagus, stricture of the, 745
Estes, W. L., first aid on railways, 26
Ether and morphin for patients with weak heart, 317
deaths from, 276
Etheridge, Dr. J. H., death of, 213
Ethics in London, 505
of specialism, 741
Eucain in the esophagus and rectum, 368
Exchange system among journals, 111
Exercise and the kidneys, 766
Exophthalmic goiter, 256, 492
Exophthalmus, new operation for, 597
Expectorant mixture, 416
Extra-uterine pregnancy, 505
Extrophy of the female bladder, 271, 802
Eye, syphilis of, 609

FACTORY inspectors' report, 178
Faith healer convicted, 794
kills himself, 308
healers and the law, 662
Family diseases, 813
Fascia, tuberculosis of, 803
Fatigue, the biologic significance of, 87
Fats, the melting point of, 630
Fat, the origin of, 600
Fecal fistula, closure of, 219
Feeding, effects of frequent and infrequent, 93
Fees of medical experts, 115
Female genital organs, 577
nurses in the army, 245
teacher of medicine in Paris, 533
Femoral artery and veins, surgery of, 805
Femur, bowing of the neck of, 574
fracture of the neck of, 126
Fetid breath, 144
Fever in aseptic surgery, 158, 785
Fibroid tumors, 672
of the uterus, 811
Fibroids of the uterus treated with thyroid extract, 33
Fibroma molluscum, death of a noted victim of, 341
Fibromata, the use of thyroid extract for, 791
Fifth District Branch of the New York State Medical Association, 626
Filaria sanguinis hominis, 280
Filters for public schools, 771
Fireproof buildings for the insane, 53
First aid on railways, 19, 26
Flanner, Dr. T. W., death of, 538
Flexner, Dr., called to the University of Pennsylvania, 376
Food adulteration in France, 663
investigation, 767
Foote, E. M., ingrowing nail, 200
Forceps, microscopic, 556
Foreign bodies in the larynx, 458, 476
bodies in the male bladder, 379
Formaldehyd disinfection, 156
gas as a disinfectant, 579
Formalin, its hardening effect, 316
for inoperable cancer, 461
for sweating of the feet, 208
Fortune for a physician, 277
Fortunes of British medical men, 593
Fothergill medal awarded, 467
Fracture of both arms, 507
Fracture of the patella, 176, 300
Fractures and extension, 367
Frauds in medical advertising, 79
French army, little tuberculosis in, 219
medical review suspends, 53
Freudenthal, W., antiphthisic serum, 193
Friendly societies, conference of, 596
Fumigation of apartments of tuberculous patients, 636
Furunculosis, 42

GAITHER, A. B., gonorrheal arthritis, 65
Gall-bladder, surgery of, 408
Gall-stones, an instrument for crushing, 253
stone surgery, 81
stones, surgical treatment of, 187
stones, their diagnosis and treatment, 746
Galton, Sir Douglas, 471
Gangrene of the hand from embolism, 397
Gargling, the utility of, 663
Garrigues, H. J., Schleich's mixture, 27
Garrisoning our tropical possessions, 14
Gas in tubercular abscesses, 348
Gastric carcinoma, 314
dilatation, 557
ectasia with tetanic symptoms, 380
fermentation, 64
lavage after general anesthesia, 72
stagnation, 331
ulcer, 506
ulcers, hemorrhage from, 736
Gastro-enteric disease in women, 147
Gastro-enterological Association, 177
Gastro-enterostomy, 680
Gastro-intestinal catarrh, serum diagnosis of, 63
diseases, 600
rheumatism, 186
tract, surgery of, 572
Gelatin for aneurism and hemoptysis, 774
General Medical Council criticised, 282
Council's asininity, 250
medicine and otology, 582
peritonitis treated by enterotomy, 220

Genital organs, conservative surgery of the, 577
Geophagy, 698
Georgetown university, 625
German hospital appointments, 181
hospital's new building, 501
inebriates in 1900, 179
Surgical Congress, president of, 562
Germ theory and serum-therapy, 800
Gerry, E. T., midwives, 29
Gerstmeyer, C., hydrophobia, 335
Gibbs, Dr., his body brought home, 562
Girls, the effect of musical instruction upon, 793
Glass, J. H., transplantation of ovary, 523
Glaucoma, 492
Glidden, C. H., occipitoposterior positions in labor, 357
Glycosuria in pregnancy, 63
Godding, Dr. W. W., death of, 626
Goffe, J. R., hysterectomy, 103
Goldan, S. O., anesthesia and consciousness, 460
Gonorrhea, 807
Gonorrheal arthritis, 65
infection, 493
stricture of the rectum, 18
Gorton, Dr. W. A., death of, 626
Gout, 541
treatment of, 589
Gouty nephritis, 192
Governor Hastings' annual message, 57
Government hospital for the insane, 212
medical service, 179
Graham, D., neurons, 6
Grip, 801
and the death-rate, 308
exanthemata, 812
treatment of, 512
Guaiacol and calcium phosphochlorid, 672
for acute epididymitis, 368
for serous pleurisy, 368
Gunby, I. P., lavage after anesthesia, 72

Hair in the human stomach, 380
Hairpin removed from the bladder, 475
Hair, to prevent the loss of, 660
Halle students protest, 563
Hamburg, decreased mortality in, 668
Hamilton, Dr., fatal illness of, 23
Harris, Dr. Robert, death of, 277
Harvard's medical teaching, 732
Havana camps, health in, 82
disinfection of, 625
improving in health, 340
sanitary work in, 768
Hawaiian Islands, health in, 309
Heacock, Dr. W. A., death of, 498
Headache, 783
and hemicrania, 660
Headaches from nasal causes, 432
Headache, the treatment of, 129, 164, 204
Health Department, removal of, 532
of the troops in Cuba, 177
statistics in New York, 244
Heart disease and altitude, 638
in early life, 599
physical signs of, 243
diseases, balneo- and mechanotherapeutics of, 4
fatty degeneration of, 599
fear, 514
injuries, treatment of, 574
murmurs, 601
accidental, 777
simulated, 639
the effect of violent exercise upon, 639
traumatic rupture of, 302
valvular affections of the, 753
wounds, 303
Heat and cold in hydrotherapeutics, 174
Helmholtz's brain, 430
Hemachromatosis, 605
Hemalbumin in chlorosis and anemia, 462
Hematuria from tight lacing, 51
during pregnancy, 586
Hemoglobin, methods of estimating, 744
Hemoglobinuria quinin in, 343
with bilious fever, 63
Hemorrhage, puerperal, 259
Hemorrhagic diathesis and typhoid fever, 376
Hemorrhoids, 712
a general disease, 774
the plastic treatment of, 216
the radical cure of, 272
Henderson, Dr. A. C., death of, 178
Hereditary and acquired syphilis, 598
Hernia and adipose tissue, 736
and its radical treatment in the British army, 61
and undiscinded testicle, 802
in Hebrew soldiers, 527
of the diaphragm, 806
prevesical, 632
radical operations for, 380
Herzog, M., œstrus hominis, 268
Hippocrates, the modern, 597
His Royal Highness on both sides of the fence, 153
Holguin, Cuba, smallpox at, 212
Home for the aged invalid poor, 340
Homeopathic Hospital for the Insane, 470
Medical College election, 23
Society meeting, 250
Home treatment of tuberculosis, 234
Honolulu, sick report from, 52
Honor to whom honor is due, 273
Hospital accused of overcharging, 594
and volunteer contributions, 378
bequests, 57, 314, 439
in Philadelphia, 28
bills rejected, 212
closed, 307
money for, 499
ship at Savannah, 341
ship for Manila, 307
ship for Philippines, 212
State appropriation for, 402, 501
Huber, J. B., Christian Science, 75, 107, 139, 168
Hudson, W. H., respiratory failure, 723
Human gait, 569
rabies in the Philippines, 341
vs. animal suffering, 338
Hutchinson, Dr. W., lectures in London, 212
Hyalin degeneration, 600
Hydrocyanic acid fumes, 153
Hydrogen peroxid, dangers of, 501
Hydrophobia, 245, 247, 333, 335, 405
Hydrops of the knee, 380
Hydrotherapeutics, 119
Hydrotherapy, 186
in adult pneumonia, 658
in private practice, 796
Hygiene in hot countries, 535
international congress of, 533
Hygienic camp, 158
decalogue, 277
Hyperidrosis of the feet, 541
partial, 473
Hypertrophy of the prostate, 483
Hypes, B. M., pregnancy, 134
Hypnotism, 279, 659
Hysterectomy, 126
for puerperal sepsis, 103
Hysteria, 256
in children, 779

Ice massage, 591
Ileocystic fistula, 302
Illinois, medical legislation in, 502
State Board of Health, 567
State Medical Society, 736
Illustrative art, perfection in, 341
Immunity, 744
from infectious fevers, 530
Impetigo, 224
Inhumanity in the Vienna Hospital, 145
Inauguration of officers of the New York Academy of Medicine, 54
Inconsistency, 113
Index Medicus, 744
India, endowment for research in, 275
Indian Army, death-rate in, 773
Inebriate act, 316, 661, 773
Infancy, diseases of, 759
Infantile dysentery, 784
spinal paralysis and subsequent spinal diseases, 319
Infants during weaning, 597
Infection, the nature and cure of, 47
Infectious diseases, report of, 115
fevers, second attacks of, 530
Infirmary for students at Yale, 28
Influenza among dogs, 539
and continued fever, 604
bacillus studied in Chicago, 312
cinnamon as a specific in, 472
complications, 303
fatal, 212
in Berlin, 178
in children, 660
in New York, 277
in the past, 467
the spread of, 409
Ingrowing nail, 200, 203, 728
Inguinal hernia, 540
Inheritance, mechanism of, 629
Inorganic chemistry, 435
Insane asylum overcrowded, 215
of New York State, 499
operations upon, 598
operative gynecology among, 298
the indigent, 114
Insanity, puerperal, 158
Insomnia, hydrotherapy for, 638
Internal anterior urethrotomy, 263
medicine, 737
International anti-alcoholic congress, 178
congress, 768
congress of ophthalmologists, 178
Intestinal fistulæ, 805
obstruction, 531, 620
obstruction due to gauze, 573
resection, 156
suture, 792
Intestine, catarrhal ulceration of, 764
Intracranial pressure, 782
Intrathoracic tumor, 376
Intubation, 506
for foreign body, 78
Investigation of Christian Science, 79
Iodid eruption upon internal organs, 381
Iodoform oil for tubercular cystitis, 336
Iodothyrin in thyroid chlorosis, 431
Ipecac in feeble digestion, 694
Ireland, tuberculosis in, 541
Italian medical students strike, 437
Itching in measles and scarlet fever, 416

Jacobson, N., renal calculus, 97
Japan, medical education in, 625
Jefferson Medical College, 630
Medical College Alumni, 181
Jenner Institute, 120, 273
Jenner's stain for blood, 771
Jenner, the late Sir William, 60
Jex-Blake, Dr. Sophia, retirement of, 539
Johnston, G. B., female genital organs, 577
Joints, foreign bodies in, 571
unusual formations of, 46
Jonnesco's method, 377
Journal of the American Medical Association, 775
editorship of, 59, 245
of the Illinois Society, 737
Journals, exchange system among, 111

Kanthack, Professor, 121
Keloid cured by injections of creosote oil, 63
from acne, 379
Kentucky University, Medical Department of, 114
Kerley, C. G., dietetic management of infants, 759
Kernig's sign of meningitis, 604
Kerr, Dr. N. S., death of, 732
Keyes, Dr. H. E., death of, 213
Kidney, diseases of the, 600
movable, 481
surgical diseases of, 574
Kidneys, violent exercise and the, 766
Kidney, unusual injury of, 156
King, H. M., arteriosclerosis, 395

Kipling's illness, 273
physician's congratulated, 341
Kirkbride, Dr. J. J., death of, 596
Kissing the book, 209
Knee-joint, tuberculosis of, 803
Kleptomania, 115
Knight, C. H., foreign bodies in the larynx, 458
Knock-out blows in English school, 121
Koch going to Africa again, 402
"Koch lung cure" establishment, 663
Koplik, H., measles, 673
"Koplik's spots" in measles, 695, 734, 794
Kraurosis vulvæ, 706
Kreissl, F., prostatic hyperthropy, 483

LABOR, occipito-posterior positions in, 357
Laboratory, appropriations for, 119
Laminectomy, 804
for cerebrospinal meningitis, 559
Lancet and quinin in malaria, 278
up in arms, 409
Lange, Dr. Chas. C., death of, 58
Laparotomy for hemorrhage, 347
Laryngeal abscess mistaken for tetanus, 491
Larynx, foreign bodies in, 458
surgery of, 574
Lavage after general anesthesia, 72
Lawrence Scientific School, Harvard, 53
Lay press on influenza, 442
Lead colic, 256, 660
poisoning, 315
Lenval prize, 593
Leprosy in the Hawaiian islands, 93
Leshure, J., microscopic forceps, 556
Les serotherapies, 342
Leucemia, 219
and leucocytosis, 599
Leucorrhea, 288
Lewis, G. G., otology, 582
Library of the College of Physicians, 376
Lichen urticatus, 544
Life, increasing duration of, in Chicago, 663
Insurance Examiners, Congress of, 532
of John Hunter, 346
Ligget, J. J., hydrophobia, 333
Lindsay, Dr. J., death of, 28
Lipoma of the filum terminale, 314
Lipomata, the origin of, 62
Lips, thick and thin, 308
Liquid air, 53
and bacteria, 726
as a germicide, 629
Lister, Lord Joseph, 153, 402
Lithemia, 183
Litten's diaphragm phenomenon, 456
Little, Dr., as professor at Dublin, 52
Liver, acute yellow atrophy of, 692
hydatid cysts of, 540
Livingood, Dr. Louis A., death of, 58
Local Boards of Health, 215
Localization of tuberculosis, 550
Locomotor ataxia, 434
London fog, 738
hospitals, financial status of, 409
Polyclinic, 283, 597
Long, E. H., pharmacy, 423
Longevity of doctors, 399
the secret of, 367
Long Island Association of Physicians, 82
tube nursing-bottle, 156
Loomis Laboratory is sued, 500
sanitarium, annual report of, 24, 150
Lorenz defends his operation, 123
Lowell, J. S., charities, 135
Lubricant, 544
Lung, abscess of, 353
affections in typhoid fever, 473
bullet wound of the, 763
surgical treatment of abscess of, 806
Lungs, anomaly of, 182
purulent foci in the, 318
Lupus, hot-air cauterization of, 774
treated by hot air, 575
vulgaris, 256
Lynch, F. P., black-water fever, 648
Lydston, G. F., urethrotomy, 263
Lymphatic scrotal tumors from filaria, 219

MACROPODIA, congenital, 701
Magnetic healers in France, 150
Malaria, 462, 509, 531, 543, 617
and typhoid, 370
disappears in England, 738
in mobilization camps, 700
inoculation theory of, 510
Malarial nephritis, 542
organisms, the morphology of, 542
Malaria, quinin in, 112
researches in, 568
with typhoid fever, 621
Malthusianism and the doctors, 369
Mammary cancer, 188
Management of pregnancy, 134
of typhoid fever, 757
Manges, M., pneumonia, 1
Manila, health and sanitation at, 468
medical department at, 665
Manslaughter by Christian Science, 308
Manton, W. P., operative gynecology, 298
Margarine and butter, 563
Marine Hospital Service appointments, 697, 767
examinations, 52
Marriage rate in England, 533
state regulation of, 110
Martin, Dr. A., leaves Berlin, 402
Dr. Edward, resigns, 28
Martyr, another medical, 533
Marx, S., puerperal hemorrhage, 259
Masks for surgeons, 466
in tuberculosis, 472
Massachusetts Hospital for Tubercular Patients, 213
Massage by trained nurses, 247
for post-operative ileus, 174
Materialism, the passing of, 741
Mathews, J. M., presidential address, 713
McArdle, T. E., cod-liver oil, 654
McDonald, Dr. D. L., death of, 502
McEnroe, Dr. W. H., death of, 664
McGauran, Dr., testimonials to, 593
McGillicuddy, Dr. T. J., death of, 244
McLean, M., thyroid extract in fibromata, 791
McManus, Dr. C. W., death of, 83
Measles, 90
and the Board of Health, 250
another sign of, 696
by mail, 562
for the cough during, 494
mucous membrane in the diagnosis of, 673
relapses of, 594
second attacks of, 700
Meat extracts of vile origin, 663
Mechanism of inheritance, 629
Medical advertising, 742
frauds, 79
and Chirurgical faculty in Maryland, 567
and Surgical Review of Reviews, 114
aspects of crime, 719
college commencements, 566
degrees in Great Britain, 251
education, 185
in Japan, 625
examiners reappointed, 307
experts and their fees, 308
expressions in newspapers, 241
hero, 737
laws upheld, 440
legislation, 775
literature of the world, 111
news for 1899, 19
profession, additional honors for, 153
Progress, 23
Record plays with fire, 402
Society of the State of New York, 83
Society's loss, 153
student abroad, 699, 769
study abroad, 697
Medicine and Christian Science, 623
taught by mail, 149
Medico-chirurgical Alumni Association, 90
College wins its suit, 314
Legal Society, 181
Society of New York, 178

Meeting of the Pennsylvania State Medical Society, 439
Member of the Light Brigade dies, 308
Membership of the A. M. A., 795
Membrana tympani, anesthesia of, 32
Membranous cataract, 188
tonsillitis of influenza, 781
Meningitis, 615
cold baths for, 598
Mental activity and intense cold, 594
Mercury, subcutaneous use of, 589
Meteorologic and telluric conditions of Cuba, 14
Metrorrhagia of puberty, 272
Michigan University, 663
special lectures at, 212
Micro-organism of faulty rum, 53
Microscopic projections, 159
Midwife question once more, 20
Midwives as illegal practitioners, 29
Migraine, 32
of hysterical patients, 622
not due to paraxanthin poisoning, 606
Miliary tuberculosis, 667
Military hospital at San Francisco, 106
surgeons to meet, 307
Milk and scarlet fever, 561
and tuberculosis, 175
from a sewage farm, 665
leg in typhoid fever of soldiers, 336
Minister of Health, 539
Mississippi Valley Medical Association, 533
"Missouri" brings sick soldiers, 498
Mitchell, Dr. S. Weir, 772
Mitral murmurs, 776
stenosis, 602
Mixtures of nitrous gas and oxygen, 348
Modern anatomy, 345
Monat, Sir James, K.C.B., death of, 182
Montaldo, F., hygiene in hot countries, 535
Morbidity and mortality of the Spanish military occupation, 170
Morphin and cocain, 432
Morphinism, treatment of, 781
Morphomania, 781
Mortality from typhoid fever in Philadelphia, 311
in New York in 1898, 246
in New York State, 440
rate for Infants' Hospital, 570
Moss Home for Incurables, 771
Mountain toothache, 751
Mount Sinai Hospital's new building, 177
Mouth-breathing, 157
Movable kidney and appendicitis, 160
diagnosis, of 58
Mundé, P. F., pelvic and abdominal diseases, 449, 487
Munificence well directed, 22
Muscular activity and alcohol, 302
Music and neurotic girls, 793
Myers, T. H., inflammation of the spine, 641
Myomectomy and hysterectomy, 569
Myxedema, 659

NAGASAKI, American sanatorium at, 53
Nail, ingrowing, 200
Naphthalin in the treatment of tapeworm, 352
in the treatment of ezema, 302
Nasal and cranial disease, relation between, 157
catarrh in children, 360, 391
septum, perforations of, 701
surgery, 536
Nasopharyngeal polypus, 74
Nature of cancer, 385
Nebulization in the treatment of consumption, 60
Necrosis phalangeal, 576
Negro babies, the color of, 117
Neolithic lady, 114
Neo-Malthusianism and the doctors, 369
Nephritis and heart disease, 776
and scarlet fever, 462
chronic, 32
during mumps, 480
in a movable kidney, 481
Nephropexy, indications for, 481

Nerve transplantation, 727
Nervous diseases, their curability, 781
mechanism of the heart, 599
system, syphilis of, 447
Neurology, 306
Neurons, 6
Neurotic girls and music, 793
Newmark, L., poliomyelitis, 101
New medical journal, 149
New psychiatric disease, 217
Newspaper medical expressions, 241
paragrapher, 563
New York County Medical Association, 149
Foundling Hospital, 114
Hospital and the State Board of Charities, 24
Medical League, 149
State Board of Health, 625
Nicetown, smallpox in, 702
Nirvanin, a new local anesthetic, 302
Nitrous oxid as an anesthetic, 180
Noise an etiological factor, 53
Noises at night, 765
Noma and its etiology, 572
Nomenclature of the nervous system, 49
Non-myxedematous infantilism, 703
Non-tubercular inflammation of the spine, 641
Norristown Hospital for the Insane, 470
Northampton County Medical Society, 538
Nose, replacing the. 666
restoration of, 431
Nosophen and nosophen gauze, 78
Nudity, the climatology of, 638
Nurses' Association, 562
certificate for volunteer, 566
Nursing-bottles with long tubes, 750

Oakburn epileptic colony, 470
Obesity, thyroid extract for, 812
Obstetrics and syphilis, 446
Obstruction, intestinal, 531
Obstructions to progress of specialism, 741
Occipito-posterior positions in labor, 357
O'Dwyer memorial, 467
Œstrus hominis, 268
Officers and recruits, 597
Oil of wintergreen, 784
Old clothes, the new philosophy of, 495
Omentum, inflammation of, 411
Operation for aneurism, 560
Operative gynecology on the insane, 298
Ophthalmia among immigrants, 767
purulenta, 68
Ophthalmological Society of Chicago, 119
Ophthalmology, history of, 569
Opium for children, 96
Oppler-Boas bacillus and gastric carcinoma, 47
"Order of Mercy," 409, 442
Origin of epidemics and some analogies, 112
Oroscopy, 676
Orthoform and antipyrin, 598
for toothache, 192
toxicity of, 608
with calomel, 288
Osler, W., typhoid fever, 225
Osteopaths, 215
Osteosarcoma of the face, 506
Otitis media in lobar pneumonia, 605
suppurativa, dry treatment of, 143
Otological Congress, Sixth International, 404
Otology and general medicine, 582
Ovarian and uterine tumors complicating pregnancy, 810
cyst, 595
neuralgia, 224
transplantation, 186
Ovary and vermiform appendix, diseases of, 160
transplantation of, 523
Ozena treated by citric acid, 622
treated by cupric electrolysis, 348

Pachyderm, 307
Packard, Dr. F. R., elected dean, 28
Pagan reverence for the dead, 210
Paget's disease, 727
Pain in the side, localization of obscure, 708
Pancreatic calculi, 92
cysts, 540
Pannas' operation for strabismus, 188
Pannus, 589
Paracentesis pericardii, 289
Paraldehyd as a hypnotic, 751
Paraphimosis, 792
Paris Academy of Medicine, 373
a new vice in, 114
influenza in, 402
W. J. J., typhoid fever, 757
Park, Roswell, cancer, 385
W. H., formaldehyd gas, 579
Paroxysmal hemoglobinuria, 570
Parturition and sudden death, 253
Patella, fracture of, 300
Paterson, typhoid fever at, 307
Patella, fracture of, 176
technic of suturing, 494
Pathologist to the City Hospitals, 498
Peck, E. S., ophthalmia, 68
Pediculosis pubis, 180
Peet, Dr. I. L., death of, 24
Pelopathy, 23
Pelvic and abdominal diseases in the female, 449, 489
operations, 89
tuberculosis, 748
Penis, epithelioma of, 137
Pennsylvania College of Dental Surgery, 439
Pensioner's regret, 436
Pensions for asylum physicians, 630
Pepper, Dr., statue of, 376
Perforating round ulcer, its causes, 252
Pericardium, function of, 541
Periodic paralysis, 604
Periostitis, dental, 416
Peritonitis, 805
Pernicious anemia, 461
Pessary long retained, 493
still popular, 348
Pet animals the cause of disease, 465
Phagocytes in a new rôle, 146
Phagocytosis of red blood-cells, 739
Phantom tumor, 373, 601
Pharmaceutical possibilities, 53
Pharmacopœia, revision of, 564
Pharmacy and its possible improvement, 423
Pharyngitis and tonsillitis in infants, 267
Phelps, C., brain injuries, 691
sanatorium at Battle Creek, Mich., 216
Phenol and indol, 606
Philadelphia Academy of Surgery and the Gross prize, 117
and typhoid fever, 209
College of Pharmacy, 439
County Medical Society, Fiftieth Anniversary, 89, 117
hospitals and foreign graduates, 595
Medical Club, 90
Medical Journal and the eyes of its readers, 178
Municipal Hospital, 771
physicians and typhoid fever, 401
streets, 249
typhoid fever in, 305
water-supply, 28
Philanthropist, 626
Philippines, to study diseases in, 373
Philosophy of old clothes, 495
Phlebitis and thrombosis, 285
Phlegmonous inflammations, antitoxin for, 158
Phonograph and the didactic lecture, 50
Phthisis, arrested cases of, 634
Physician's certificates, 731
gift, 244
gold fetters, 276
to prevent the spread of disease by, 698
Physician, the ideal, 633
Physics, a question in, 54
Physics of steam sterilization, 257
Physiology in the University of Edinburgh, 442
Placenta, delivery through, 397
Plague, another medical martyr to the, 466
at Bombay, 240
inoculation against, 367
precaution against it in Europe, 317
Plantar hypersecretion cured by formalin, 208
Pleural cavity, empyema of, 762
Pleurisy, 658
anaerobic germs in, 410
Pneumonia and the doctors, 339
causes the death of an entire family, 88
cure for, 403
in children, 622
in infants, 184
in the aged, 778
question, 778
serum cure for, 307
the treatment of, 778
treatment of acute lobar, 1
with multiple foci, 63
Pneumonic abscess, 353
Poisoned by post, 539
Poisoning treated by Christian Science, 593
Poison in wall paper, 340
Poisonous frocks, 115
Polak, J. O., rupture of the uterus, 555
Poliomyelitis, a little epidemic of, 101
anterior, 812
Polk, W. M., thyroid extract and uterine fibroids, 33
Polydipsia and polyuria, 410
Polyclinic of London, 666
Polypus of enormous size, 74
Pons varolii, hemorrhage in, 813
Pope, the health of, 499
the operation upon the, 403
Popliteal aneurism, 805
Post-partum hemorrhage, 493
typhoid surgical lesions, 365
Potassium iodid, 590
Practitioner, The, cancer number of, 538
Pregnancy, care and management of, 134
complicated by hematuria, 586
Presidency of the New York Board of Health, 374
Pressure in surgical dressing, 92
Prevention of tuberculosis, 277
Preventive medicine and political economy, 158
treatment of rabies, 331
Princely surgeon honored, 277
Prince of Wales' Hospital Fund, 378
Principles for sale, 308
Privileges of doctors. 467
Problem of typhoid fever, 225
Proctological Society, 767
Professional advertising, 89
secrecy, 562
secrecy in English law, 437
Prohibitionists and their new ally, 182
Prostatectomy, 558
Prostate, galvanocaustic treatment of the, 483
pathological anatomy of its chronic enlargement, 30
Prostatic hyperthropy, 505
Protargol and argonin for purulent ophthalmia, 68
Protests to the legislature, 4c4
Pruritus, 224, 712
of the vulva, 96
Prussian hospital investigation, 500
Pryor, J. H., cancer and consumption, 651
consumption, state prevention of, 197
Psittacosis, 82
Psuedo-diphtheria bacillus, 520
tuberculosis, 444, 773
Psychic phenomena during anesthesia, 463
study of society, 532
Psychopathic epidemic, 732
Public and private charities, 135
health officers, 469
health, school of, 402
school children, sight and hearing among, 115

Puerperal hemorrhage, 259
infection, curetting for, 46
period prolonged, 493
sepsis and hysterectomy, 705
hysterectomy for, 103
salpingo-oophorectomy in, 363
operative treatment of, 807
Puerto Rico, smallpox in, 308
Pulling, Dr. E. R., death of, 767
Pulmonary embolus, 498
hemorrhage in different months, 302
location of tubercle, 570
tuberculosis, diagnosis of, 634
Pulse tracings, 603
Punishment, inhumanity of military, 503
of an unpardonable fault, 277
Pure food investigation, 626
water for Philadelphia defeated, 407
Purpura hemorrhagica, 427
Purrington, W. A., legal aspect of the midwives' question, 29
Purulent meningitis, 615
Pylorectomy for malignant diseases, 496
Pyloric hyperthropy, congenital, 348
Pylorus, successful operation upon, 540

QUAKERS on vivisection, 731
Quarantine methods imperfect, 121
stations, 114
vessel "Protector," 152
Quinin blindness, 784
consumption of, in America, 593
hypodermic administration of, 778
in certain forms of malaria, 620
increase in price of, 498
in malaria, 27, 85, 112, 777
in malarial hemoglobinuria, 343, 497
Quinlan, Dr., appointment of, 82

RABIES, 349
and its preventive treatment, 321
in America, 337
quarantine against, 466
Radius, arrested development of, 703
Railroad rates to the Columbus meeting, 436
Railways, first-aid to the injured on, 19, 403
Surgeons, International Association of, 372
Ration of United States Army, 243
Rats and diphtheria, 596
Ravenel, M. P., bacteria and cold, 726
Read backward or forward, 53
Recovery from hydrophobia, 333
Rectal implantation of ureters, 441
operations and their complications, 806
temperature of a child, 694
specialists, 520, 564
Recto-vaginal tear, infection following, 707
Rectum, gonorrheal stricture of, 18
Red-Cross medal, 436
nurses, 767
Society in Cuba, 408
Red Man, 767
Reed, W., bacilli of yellow fever and cholera, 513
Relation of the State to the consumptive, 197
Relative value of murmurs and position of apex-beat as diagnostic signs, 243
Remains of soldiers to be returned, 114
Renal diseases and climate, 636
calculus, 97
Report of Cook County physician, 59
Request of Mrs. Lathrop denied, 698
Research in India, 275
scholarships, 738
Respiratory failure in cerebral diseases, 723
Rest-cure, a fallacy of, 697
Retinal arteries and arterial disease, 537
Reviews—
Baruch, principles and practices of hydrotherapy, 383
Bell, notes on surgery for nurses, 576
Brouardel and Gilbert, traite de medecine et de therapeutique, 64
Buck, a treatise on diseases of the ear, 192
Burr, a primer of psychology and mental diseases, 288
Reviews—
Clark, a clinical manual of mental diseases, 96
Coleman, a syllabus of materia medica, 288
Deland, Bruce, and Finlay, international clinics, 575
De Schweinitz, diseases of the eye, 512
Dudley, diseases of women, 190
Fowler and Godlee, the diseases of the lungs, 384
Freyberger, the pocket formulary for the treatment of diseases of children, 64
Fuller, report on the investigations into the purification of the Ohio River water at Louisville, Ky., 415
Gerrish, a text-book of anatomy, 710
Griffith, the care of the baby, 64
Haig, uric acid as a factor in the causation of disease, 350
Hammersten, a text-book of physiological chemistry, 351
Hampton, nursing: its principles and practice, 352
Hansell and Reber, handbook on the muscular anomalies of the eye, 480
Hardaway, a clinical manual of skin diseases, 224
Hare, progressive medicine, 479
Hayden, manual of venereal diseases, 32
Herrick, railway surgery, 640
Hinsdale, acromegaly, 480
Hirst, a text-book of obstetrics, 286
Hueppe, principles of bacteriology, 711
Hutchinson, the Gospel according to Darwin, 31
Jackson, diseases of the skin, 814
Jewett, the practice of obstetrics by American authors, 607
Lane, cleft palate, simple fractures, diseases of joints, etc., 192
Maisch, a manual of organic materia medica, 711
Massey, conservative gynecology and electro-therapeutics, 191
McCurdy, manual of orthopedic surgery, 416
Morris, essentials of Materia Medica, therapeutics, and prescription writing, 608
Morris, lectures on appendicitis and notes on other subjects, 512
Morison, cardiac failure and its treatment, 224
Mracek, atlas of syphilis and the venereal diseases, 351
Pilcher, the treatment of wounds, 576
Polaillon, affections chirurgicales du tronc, 415
Poland, skiagraphic atlas, 351
traumatic separation of the epiphyses, 287
Regnault, lectures of Aurelio Bianchi on the phonendoscope, 352
Regnier, radioscope et radiographie, 478
Roberts, contributions to orthopedic surgery, 31
Rumbold, the hygiene of the voice, 63
Scott, the sexual instinct, 479
Shamberg, a compend of diseases of the skin, 64
Shibata, obstetric pocket phantoms, 784
Shoemaker, a practical treatise on diseases of the skin, 64
Simon, manual of chemistry, 287
Stedman, twentieth century practice, 812
Stengel, a text-book of pathology, 576
Sterling, glaucoma, 478
Stewart, a manual of physiology with practical exercises, 352
Stimson, practical treatise on fractures and dislocations, 607
Stoney, practical materia medica for nurses, 784
Thorington, retinoscopy, 814
Reviews—
Thornton, MEDICAL NEWS pocket formulary, 31
Transactions of the American Orthopedic Association, 640
Vecki, pathology and treatment of sexual impotence, 575
Witthaus, a laboratory guide in urinalysis and toxicology, 288
Rheumatic phlebitis, 288
Rheumatism, 797
in children, 660
Rhino-pharyngitis, 96
Rice, C. C., nasal catarrh in children, 360, 391
Rigidity of the perineum, 160
Roberts, Sir William, death of, 596
Rochester, D., tuberculosis, 234
Rodman, W. L., epithelioma of the penis, 137
Röntgen declines, 23
ray examinations in incipient phthisis, 635
rays in diagnosis of aneurism, 599
in thoracic diagnosis, 661
Rohé, Dr. G. H., death of, 213
Rome, Anglo-American Hospital in, 667
English hospital in, 276
Roosevelt, Governor, appointments by, 402
Rotunda Hospital of Dublin, 20
Round ligaments, 709
Roux a member of the French Academy of Sciences, 266
Royal College of Physicians, 442
dairy, tuberculosis in, 630
Rupture of the uterus, 555
Rush Medical College, 698
Russell, Dr. W., death of, 626
Russian University for Women, 697
Rutherford, Professor, death of, 378
successor, 498

SACRO-ILIAC joint, sprain of, 506
synchondrosis, rheumatism of, 598
Saddle-bags to pocket-books, 801
Saint Joseph's Hospital, 250
Luke's Hospital and Training School for Nurses, 216
Vincent's Hospital of New York, 1114
Hospital wins its case, 564
new hospital, 732
Sale of serum by the Board of Health to be stopped, 499
Salicylate of soda, substitute for, 576
Salicylic acid and salicylates in children, 764
for trachoma, 208
Saline injections in infections, 218
solution, proper strength of, 410
Salol tribromid in mental diseases, 622
Saloon and the craving for stimulants, 177
Salpingo-oophorectomy in puerperal sepsis, 363
Samaritan Hospital entertainment, 57
Sanarelli's bacillus, 529
Sanatoria for consumptives, 532
Sanatorium for consumptives, 118
Sanitaria for tuberculous patients, 241
Sanitary engineer officers, the duty of, 268
improvements in Chicago, 502
lessons of the war, 721
Sanitation in Havana, 178
Sausages, adulterated, 630
Scabies, 416
Scarlet fever, 812
and milk, 561
and nephritis, 462
in Chicago, 503
Schenk & Co., 179
and the lay press, 532
Schlatter's patient, the fate of, 698
Schleich's mixture condemned, 27, 807
School dentist, 242
for nurses in New York, 341
physicians, 737
the spread of disease in, 745
system in Germany, 597
Schott treatment of heart disease, 4
Schuylkill, sewage contamination of, 701
Sciatica, 335

"Science and Health," 179
and popular impression, 466
Scientific food wanted, 245
Scientists of America meet at Columbia College, 23
Scleroderma, 569
Scolicoiditis, 573
Scoliosis, 187
Scrofulous adenitis, 384
Scrotal pruritus, 224
Seasickness, 527
Seattle Medical Society, 245
Second attacks of contagious diseases, 701
Semilunar cartilage, dislocation of, 37
Senn for governor of Illinois, 593
Septic conditions in children, 780, 811
Septicemia treated by intravenous injections of saline solution, 48
Serotherapy in tuberculosis, 294
Serum antitoxins, the manufacturer of, 373
diagnosis of tuberculosis, 63
sale of, by the New York Health Department, 433
treatment of diphtheria, 525
Sexuality and neuroses, 47
Sham diploma, the latest, 179
Shock, 229, 801
how to treat it, 158
Sialorrhea from iodid potash, 703
Sick and wounded from the Philippines, 466
soldiers, 436
Sickness, the philosophy of, 800
Silk in abdominal surgery, 411
Silver-wire suture, 804
Skeleton in medico-legal anatomy, 281
Skene Hospital, 593
Skene's new position, 373
Skiagraphs of dermoid cyst and calculus, 152
Skin affections and renal diseases, 632, 637
grafting, 574
hygiene of, 637
Skirt slasher, 23
Sleeping sickness, 172
Sleeplessness, 416
Smallpox at Norfolk, Virginia, 149
in our new possessions, 178
in the United States, 731
its prevalence, 625
on an ocean steamer, 23
to prevent pitting in, 192
Smell of the earth, 698
Smith, Dr. J. C., death of, 181
Sobel, J., oroscopy, 676
Soldiers in Manila, death of, 23
Sommerville, Dr. J. M., death of, 502
Spallanzani centenary, 663
Spanish military occupation, 170
Specialism, its benefits, 740
Special societies, American congress of, 374
Specific treatment of tuberculosis, 661
Sphincter ani muscle, ruptures of, 622
Spinal caries, 802
column, resection of, 571
cord, syphilis of, 448
Spine, non-tubercular inflammation of, 641
Spitting in public conveyances, 373
Splenic anemia, 528
enlargement in mumps, 348
Spondylolisthesis, 704
Spots on the mucous membrane in measles, 673
State appropriations, 470
board examinations and medical education, 249
Board of Charities, 307, 498, 664
care of the incipient consumptive, 197
charities of New York, 83
Health Board and Dr. Jenkins, 307
Medical Examining Board, 470
private charities, 731
Status of pharmacy, 423
Steam in uterine hemorrhage, 304
sterilization, 257, 285, 406
Stephens convicted of arson, 250
Stereoscopic projections of skin diseases, 159
Sternberg, G. M., lessons of the war, 721
Stickler, Dr. J. W., death of, 664
Stimson, L. A., fracture of the patella, 300
Stimulants, the craving for, 177
Stomach, perforation of, 606
photographing the, 436
position and size of, 271
tuberculosis of, 739
Stomatitis, feeding in, 608
ulcerative, 256
Stoner, H. H., furunculosis, 42
Stones, case of swallowing, 558
Strabismus, operation for, 475
Street noises at night, 765
Streptococcic infection, 545
Stromberg, Dr. H., wanted, 437
Struble, W. M., toadstool poisoning, 655
"Strumous" diathesis, 558
Struthers, Professor, death of, 378
Stubbert, J. E., serotherapy in tuberculosis, 294
Stutterer cured, 767
Stye, an ointment for, 192
Stypticin for uterine hemorrhage, 160, 417
Subclavian artery, ligation of, 126
Subcutaneous use of mercury, 589
Subphrenic abscess, 739
Sugar from albumen, 466
Suggestive therapuesis in children, 464
Suicide, 149
of a woman physician, 372
Suit on account of an autopsy, 566
Summer course in medicine, 436
diarrhea, 792
Sunshine and rain in Europe, 663
Superior maxillary nerve, resection of, 598
Suppressed street noises, 251
Suprapubic *vs.* vaginal celiotomy, 187
Suprarenal capsule, fatal administration of, 410
disease not Addison's, 220
Surgery of the gall-bladder, 81
Surgical complications of typhoid, 467
service, 149
shock, 557
treatment of eclampsia, 552
Suture of the intestine, 792
of the right ventrical, 317
Sutures for wounds in veins, 78
Swallowing, difficulties of, avoided, 773
Swedish gymnastics for headache, 220
Swiney prize, 276
Sycosis barbæ, 368
Synchysis scintillans, 566
Synovectomy *vs.* resection of the knee, 728
Syphilis, 446
acquired and hereditary, 598
from dried virus, 92
in the throat and diphtheria, 366
its surgical aspect, 446
its treatment, 400
of the eye, 609
of the respiratory passages, 508
the micro-organism of, 600
treatment in its early stages, 411
Syphilitic dementia, 447
eruptions, differential diagnosis of, 413
lesions of the breasts, 318

Tabes, 603
an unobserved symptom of, 410
Tailors, twenty-six thousand patients among, 148
Tait, Mr. Robert Lawson, death of, 794
Talipes, astragalectomy for, 239
Tapeworm, a new remedy for, 694
prescription for, 367
Taste and smell, 87
is there such a sense, 373
Taxation of library, 667
Taylor, Dr. C. F., death of, 150
Teachers, an age limit for, 57
Teeth, care of children's, 784
of infants, 368
Telephones, disease from, 244
Tendons, cross suture of, 621
Terminology of appendicitis, 495
Terpin hydrate for bronchitis, 622
Testicle, partial resection of, for tuberculosis, 335
Testicles, tuberculosis of, 219, 702
Testimony of physicians forbidden, 373
Tetanus, injection of carbolic acid for, 694
serum, 600
treated with antitoxin, 491
Texas cattle fever and malaria, 509
smallpox epidemic in, 328
Therapeutics, antinatal, 730
Thoracic diagnosis, Roentgen-rays in, 661
duct, tuberculosis of the, 774
effusion, 799
Therne, Dr., endorsed, 181
Thorax, skiagraphy of the, 574
Thorner, M., nasopharyngeal polypus, 74
Thrombosis following celiotomy, 708
Thyroid, a new preparation of, 731
extract in fibromata, 791
for uterine fibroid, 33
gland, pathology of, 471
Thyroiditis, 376
Thayer, W. S., malaria. 617
Tight-lacing and periodic hematuria, 51
Tight boots, death from, 773
Toadstool poisoning, 655
Tokio's physicians honored, 467
Tongue, fissures of, 224
Tonsillar hemorrhage, 619, 665
Tonsillitis, 384
and pharyngitis in infants, 267
and rheumatism, 347
in children, 128
Tonsil, tuberculosis of, 318
Tonsorial hygiene, 186
Tooth extraction fatal, 244
Torticollis, congenital, 597
Trachea, surgery of, 804
Tracheotomy and tuberculosis, 405
expectancy of life after, 399
longevity after, 405
Trachoma, 544
in Hungary, 73
Tracy, Dr. R. S., death of, 665
Tragedies bound in oak, 738
Trained nurses celebrate, 340
Trains, contagious diseases in, 437
Transformation by epithelial cells, 433
Transplantation of the human ovary, 523
Trauma in the etiology of malignant diseases, 559
Traumatic shock, 807
Treasurer of the New York Academy of Medicine resigns, 244
Treatment of acute lobar pneumonia, 1
of erysipelas, 426
Trendelenburg's operation, 591
Trial of a physician, 121
Trichinosis and eosinophiles in the blood, 12
Trigeminal neuralgia, 192
Troops in the Philippines, 179, 374
Tropical diseases, Government School of, 470
Medicine, Liverpool School of, 597
the New School of, 409
possessions, the garrisoning of, 14
Tropic diseases, England's School of, 52
Trustful medical man, 697
Tubercle bacilli, thermal deathpoint of, 728
in the aorta, 791
Tubercular infection in second-hand clothing, 156
infection, pneumonia and typhoid fever, 280
Tuberculin, 193
test, 799
Tuberculosis and climate, 624
and milk, 175
antiphthisic serum for, 799
congress, 662, 699, 772
dangers of, 83, 472
Dr. Kohler's paper on, 768
general miliary, 572
government aid for the repression of, 775
hospital of the Marine Hospital Service, 532
in factories, 307
inoculation of, at circumcision, 381
in tenement-houses, 436
serotherapy of, 294
society for the prevention of, 119
specific treatment of, 661
tests, 731

Tuberculosis, to limit the spread of, 349
treated at home 234
with antiphthisic serum, 193
unusual localization of, 550
Tuberculous patients treated in sanitaria, 241
where to send them, 799
peritonitis mistaken for acute obstruction, 62
subjects, 453
Tumors, vanishing, 445
Turkistan, origin of the plague in, 283
Tuthill, T. K., illegal practice of midwives, 29
Typhoid and cerebrospinal meningitis epidemics, 345
and malaria, 370
epidemic among the insane, 795
fever among American soldiers, 604
among the soldiers, 180
communicability of, 445
epidemic in Philadelphia, 375
in army camps, 594
in country practice, 757
in infancy, 367
in Newark, 372, 436
in Philadelphia, 152, 209, 305, 344, 375, 406
in the United States, 225
official views of, 470
perforations, operation for, 595
rapid diagnosis of, 380
sequelæ, 365
some problems of, 189
some unsolved problems of, 796
spread by rectal thermometer, 563
the cold bath in, 556
without intestinal lesions, 558
Typhus in Massachusetts, 403

ULCERS of the leg, 432
of the leg, a dressing for, 208
Umbilical cord, dressing for, 622
cords complicating labor, 215
hernia, 187
sloughing and aseptic childbed, 706
University chairs and their emoluments, 443
of Paris, attendance at, 533
of Pennsylvania, laboratory building for, 89
of Pennsylvania loses Dr. Deaver, 340
of Pennsylvania's medical faculty, 771
Unlawful diplomas, 216
Uremic headache, 288
Ureters implanted in the rectum, 120
Urethra, hatpin in, 764
Urethroscope, 588
Urethroscopy, 807
Urethrotomy, internal anterior, 263
Uric-acid diathesis, 64
formation, 600
Urinary infection, 728
test for obstruction of the pancreatic ducts, 152
Urine, toxicity of, 606
Urotropin for cystitis, 78
Uterine cancer, prophylaxis of, 810
carcinoma, 317
displacement, mechanical treatment of, 120
fibroids, 807
hemorrhage, stypticin in, 417
the use of steam in, 304
inversion, 708
myoma, conservative treatment of, 118
retrodisplacements, 749
Utero-pyelostomy, 219
Uterus, instrumental rupture of, 555
retrodisplacements of, 345
rupture of, 528
spontaneous rupture of, 502, 807
tuberculosis of, 240

VACCINATION and antivaccination, 315
and the conscience clause, 181
aseptic, 728
conscience clause, 282
compulsory, 775
investigation, 309
its pathology, 443
of monkeys, 444
increase of, 738
Vaccin farm for the army, 664
Vaccinia germ, 91
Vaccin lymph glycerinated, 496
inert, 24
Vaginal celiotomy, 709
cysts, 272
incision and drainage, 707
incision, final results of, 808
operations, 808
vs. abdominal sections, 808
Vaginismus and pelvic neuralgia, 494
Valentine, F. C., urethroscope, 588
Valvular affections of the heart, 753
heart affections and their prognosis, 639
Van Arsdale, Dr. W. W., 534
death of, 404
Cott fellowship, 650
Varicocele, 144
Varicose veins, 398, 566
operation for, 591
Vegetable diet, the economy of, 52
Vegetarians, 61
Venereal diseases, 795
veteran, 114
Ventrofixation, etc., 750
Veratrum viride in pneumonia, 469
Vesical calculi formed about sequestra of bone, 461
encysted, 739
Vesicular mole, 737
Vienna, an American bon mot in, 149
General Hospital, inhumanity at, 145
Vineberg, H. N., salpingo-oophorectomy, 363
Visceral syphilis in children, 446
Virchow on disarmament, 663
Vital resistance, 744
Vivisection, abolition of, 664
Volta, anniversary in honor of, 340
Volvulus of the sigmoid flexure, 505
of the sigmoid, recurrent, 398
Vomiting, cold water for, 764
of tubercular patients, 64
Von Esmarck's suggestion, 53

WALKER, J. B., semilunar cartilage, 37
War commission, the report of, 213
sanitary lessons of, 721
Warthin, A. S., tuberculosis, 550
autopsies on tuberculous subjects, 453
Water question in Philadelphia, 439
supply of London, 251
royal commission on, 503
supplied to New Yorkers, 398
Weak heart, 183
Weber-Parkes prize, 309
Weight of the German soldiers, 436
Weiner, Dr., appointment of, 794
Weir, R. F., gastro-enterostomy, 680
Westredge, First Lieutenant W. B., death of, 767
Wheat problem, 369
White blood-corpuscles, 739
Whooping-cough, formalin in, 494
Wilcox, R. W., chlorin for enteric fever, 161
Wiley, W. H., cod-liver oil, 654
Wilson, J. C., medicine in America, 717
Witness, the physician as, 813
Woman's College of New York abolished, 698
Hospital of New York, 663
Woodbury's mission to Germany, 768
Wood, Dr. Leonard, 471, 630, 665
Woodhead succeeds the late Professor Kanthack, 345
Wood, Lieutenant, death of, 307
Words, words, words, 245
World's medical literature, 111
Wounds and bacteria, 572
Wrong tooth, 276

XANTHIN group the result of cardiac exhaustion, 599
X-rays and surgical results, 572
improper use of, 563
in medicine and surgery, 159

YALE's bicentennial, 561
request, 534
Yellow atrophy of the liver, 692
fever at New Orleans, 767
bacillus of, 529
guarding against, 402
in Cuba, 212
in Louisiana, 374
in Mexico, 477
mortality of, 478
quarantine, 732
tinge of palms and soles, 467, 628
Young, J. K., astragalectomy, 239
W. B., hematuria, 586

R
11
M43
v. 74

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